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THE MEDICO-CHIRURGICAL REVIEW,
AND
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(QUARTERLY.)

ARRANGEMENT.

I.—Extensive Analytical Reviews of English and Foreign Medical Works.
II.—Quarterly PERISCOPE of Practical Medicine; or, Spirit of the Medical Journals, Foreign and Domestic.
III.—PERISCOPE of authenticated Hospital Reports, British and Continental, with Commentaries.
IV.—ANALECTA; or, Gleanings from the Periodical Presses of Europe and America.
V.—Prize Hospital Reports, Metropolitan and Provincial.

The whole forming two large annual volumes of concentrated practical information in
MEDICINE, SURGERY, MIDWIFERY, PHARMACY, &c.

EDITED BY
JAMES JOHNSON, M.D.
Physician Extraordinary to the late King of Great Britain,
AND
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Lecturer on Anatomy at the School of St. George's Hospital in Kinnerton Street.

TO OUR SUBSCRIBERS.

On the cover of the October No. for 1840, we requested a remittance by *return of mail* of your subscriptions, to which very many *promptly* responded. Indeed we have received more remittances in *advance* this year than ever before. Yet, while we return our thanks to such for their promptness, and hope they will manifest the same continued kindness in an *early* remittance for the coming year 1842, still there are those who from inattention and neglect (whether intentional or not, they only can tell) make *no returns* in *word or deed.*

We are aware that it is the lot of Editors and Publishers of Periodicals *generally* to have a number of subscribers who *never do pay.* But we do not look for that class of men in so dignified and honorable a profession as that to which you belong. Indeed should we not wrong the profession by such a supposition? But, then, how are we to judge of men but by their acts? We hope *all*, will, by an *immediate* remittance of the amounts of their bills, enclosed in the present No., enable us to give *one* judgment favorable to them, as it *should* be, and agreeable to us, as it *will* be.

Respectfully,
R. & G. S. WOOD.

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Church University of Upper Canada.

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Medico-Chirurgical Review,

No. LXX.

[NO. 30 OF A DECENNIAL SERIES.]

JULY 1, to OCTOBER 1, 1841.

On the Diseases and Derangements of the Nervous System, in their Primary Forms and in their Modifications by Age, Sex, Constitution, Hereditary Predisposition, Excesses, General Disorder, and Organic Disease. By *Marshall Hall*, M. D. F.R.S. L. & E. &c. &c. &c. Octavo, pp. 380. London, Bailliere. 1841.

We are not sure that Dr. Marshall Hall is well advised in dwelling so much on the injuries he has received. He places himself in the same category with Harvey and with Galileo, and exposes himself to the sneers of those who are inclined (and they are too many) to derogate from his real merits, and disparage his labours and their fruits. The proverbial irritability of authors is displayed by him too prominently. The public either laughs at incessant complaints, or gets tired of them. Controversy and controversialist are both voted a bore, and there is a greater danger impending than opposition—neglect.

Dr. Hall too, overrates the wrongs he has encountered. New views are at first ill understood, and require opposition for their perfect development. Men's minds are too entrenched in old opinions to be taken by storm even by truth. The process of conviction is a slow and a sure one. All this a philosopher should reckon on, and not lose his temper at every doubt and every objection. We conceive that if Dr. Hall had engaged less in altercation, and prosecuted his researches with more equanimity, he would have escaped many annoyances, and stood in just as advanced a position as he occupies at present. He may think us impertinent for offering advice, and yet we *would advise* him to drop the tone of disputation altogether, avoid noticing as well as indulging in personal attacks, and content himself with working out his own discoveries and views.

We do not propose recording those discoveries, nor entering at length upon those views at this time.' We have devoted so many pages to them lately, that that would be supererogation. The application, however, of those views to pathology, an application made freely in the work before us, may present some points of novelty and of instruction, and to that application, we shall confine ourselves. An article of this description must, of necessity, be desultory.

Dr. Hall has satisfied himself of the seat of the soul and of its properties, and hits materialism a mortal blow. "The principle of action," says he, "in the cerebral system, is the ψυχη, or the immortal *soul.* Upon the cerebrum the soul sits enthroned, receiving the ambassadors, as it were, *from* without, along the *sentient nerves;* deliberating and willing; and sending forth its emissaries and plenipotentiaries, which convey its sovereign mandates, along the *voluntary nerves, to* muscles subdued to volition."

> "The acts of the soul are, as I have stated, frequently spontaneous. It is this very character of spontaneous action, indeed, which proves the soul to be free in its agency, independent of organisation (although for a time connected with it, and influenced and manifested by it), and therefore indestructible and immortal. All the acts of mere organic life are the result, the effect, of *physical* stimulus; let this stimulus cease, and its effect ceases—it is death. The functions, the operations of the soul alone are free, spontaneous, unexcited. This is the true argument against *materialism;* but I reserve the task of unfolding it to another and more appropriate opportunity." 4.

We could have wished that Dr. Hall had been more communicative, for his promise to prove all by-and-by is tantalising. As the matter stands, it looks as if the act of *volition* constituted the evidence, and was the office of the *soul.* But if this be so, all animals possessed of *volition* have souls. It would therefore be well to understand exactly what Dr. Hall intends by a soul. We confess that we are of those who believe in the existence of an immortal soul in *man.* But we are more inclined to look to inspired Writ than to physiology for the assurance of it. Physiology, indeed, leaves such high questions in the dark. The sciences do not rise to these arcana of Nature, and what we know we must submissively receive from the lips of the Deity himself.

But to proceed. The following passage is a fair sample of Dr. Hall's style. Its tone will, perhaps, afford a key to much of the acrimonious opposition he has met with.

> "It is very different in regard to the true spinal system; in this, the actions are always *excited.* The principle of motion is the *vis nervosa* of Haller, acting in modes and directions unknown to physiologists before the publication of my inquiries, the discovery of which I regard as having laid the foundation of all accurate knowledge of this system, with its extensive applications to physiology and pathology. Indeed, I may assert that the *vis nervosa,* in its *reflected* and *direct* operations, is to the nervous, what the blood, in its *circulation,* is to the vascular system; the former is the *dynamic,* the latter is the *material,* in all the corporeal functions in the animal economy, as distinguished from the psychical. Our knowledge of the distinct phenomena of the subdivisions of the nervous system is, further, an important guide in the diagnosis and prognosis of the *diseases* of this system; it is, to the diseases of the brain, the true spinal marrow, the nerves, and the ganglionic system, what auscultation is to those of the viscera within the thorax." 4.

This, at all events, is not calculated to disarm hostility. Dr. Hall presents us with a tabular view of his division of the nervous system, which may be usefully conned. Here it is.

TABLE OF THE NERVOUS SYSTEM.

I. *The entire Nervous System is divisible into—*
  I. *The Cerebral.*
  II. *The True-Spinal.*
  III. *The Ganglionic.*

II. *The Cerebral System is*
  I. *The Seat of the ψυχη, or soul and*
  II. *The System of*
    1. *Sensation and of the Senses.*
    2. *Volition and of Spontaneous Motion.*
    3. *Sleep and Fatigue.*

III. *The True Spinal System.*
  I. *The Principle of Action is the Vis Nervosa.*
  II. *Its Modes of Action are excited and reflex or direct.*
  III. *The Reflex Functions are those of*
    1. *Ingestion and Retention.*
    2. *Egestion and Exclusion.*
  IV. *The Direct Functions are*
    1. *The Tone* } *of the Muscular Fibre.*
    2. *The Irritability* }

IV. *The Ganglionic System.*
  I. *The Principle of Action is the Vis Nervosa.*
  II. *The Mode of Action excited, direct or immediate.*
  III. *The Functions those of*
    1. *The Internal Muscular Organs.*
      1. *The Heart and Arteries.*
      2. *The Stomach and Intestines.*
    2. *Nutrition.*
    3. *Secretion, &c.*

Mixed Functions.

Mixed, the Œsophagus; the Rectum?

V. *The System of the Emotions; these are*
  I. *Psychical Affections, acting through*
  II. *The True Spinal, and*
  III. *The Ganglionic Systems.*

CHAPTER I. is devoted to the *Anatomy, Physiology, and Pathology of the Cerebral System.*

The Anatomy and Physiology we shall pass over, but pause at the Pathology. Let Dr. Hall apply his views to this.

The cerebral system being the system of the sensations, of judgment, of volition, it is to it that we must refer all morbid conditions of these mental acts or functions. Every derangement of the senses, every form of delirium or of coma, or of perverted imagination or judgment, every act of violence, must be referred to the condition, primary or secondary, of the cerebrum, or cerebellum. The experiments of Majendie and Flourens have shewn that it is impossible, by lacerations or other modes of injury of the cerebrum or cerebellum, to induce either pain, or contraction in the muscular system. These organs are not endued with *sensibility*, or with the *vis nervosa* of Haller.

When the cerebrum is irritated, delirium ensues. When compressed, coma is induced. When lacerated, we have paralysis of voluntary motion. If other phenomena are seen in diseases of the encephalon, they arise from the extension of the influence of these to the true spinal and ganglionic systems, through *irritation* or *pressure*, *counter-irritation* or *counter-pressure*.

The olfactory, the optic, the accoustic nerves are, equally with the cerebrum and cerebellum, incapable of *pain*, or of *exciting movements* in the muscular system, when punctured or lacerated. But when the optic nerve is inflamed or irritated, there is impatience of light; when the membranes of the encephalon are inflamed and the cerebrum irritated, there is delirium. When these several textures are compressed, there is amaurosis, and coma respectively.

It must not be lost sight of, that, not only undue arterial action, and venous congestion, induce morbid states of the cerebral functions, but the state of exhaustion from the loss of blood, the anæmious condition in chlorosis, &c. induce similar effects, and present to the physician anxious cases, which frequently try his skill in diagnosis. Too great action, then, of the minute arteries, congestion in the veins, an anæmious state of the vascular system of the encephalon, alike induce morbidly exalted and impaired conditions of the mental and cerebral functions: spectra, delirium, insomnia; amaurosis, stupor, coma; violent voluntary actions, or paralysis of the voluntary motions: these are the symptoms which arise out of these morbid conditions of the cerebral system and functions; and these only. Spasmodic actions depend upon the fact of another system being implicated.

Speaking of paralysis of the face, Dr. Hall makes this remark:—In paralysis of the face, from disease of the opposite hemisphere, the eye-lid can be closed, as represented in Plate vii. fig. 1; in paralysis of the facial nerve, the orbicularis is paralysed, as we observe in Plate vii. fig 2. What is the rationale of this difference? The seventh, like the fifth, is a compound nerve. As the latter embraces excitor and ganglionic filaments, which are not involved in the attack of hemiplegia, so the former comprises a branch belonging to the excito-motory system, which is not affected in disease of the cerebrum.

Both the fifth and the seventh pairs of nerves are, then, more complex than they are represented to be by Sir Charles Bell. The former includes excitor and nutrient nerves, with the nerve of sensation; and it has appropriate origins, distributions, and offices: of its offices, sensation alone is impaired by cerebral disease; but *all* are annihilated by the pressure of a tumour within the cranium. The seventh comprises pure cerebral and true spinal nerves; the cerebral only is affected in hemiplegia, and the orbicularis retains its power; all are paralysed by the pressure of a tumor below the ear, and we have paralysis of the sphincter of the eye-lid. This remark leads me to observe that *ptosis* is a cerebral paralysis, whilst *lagophthalmia* is one of the true spinal system; *strabismus* may be spasmodic or paralytic and belong to either.

Dr. Hall notices, of course, the fact, that disease confined to one hemisphere of the cerebrum, or of the cerebellum, and to one side of the mesial plane in the tuber anulare, constantly affects the *opposite side*,—whilst disease, confined to one of the lateral columns of the medulla oblongata and medulla spinalis, affects the *corresponding* side, of the muscular system. The encephalon has a *crossed effect*; the medulla spinalis a *direct effect.*

It has been further ascertained that, *in experiments*, lesions of the encephalon induce *paralysis only*, whilst lesions of the medulla oblongata and spinalis induce *convulsion* or *paralysis*, according to its severity.

Some other more apocryphal facts in relation to lesions of certain parts of the brain we pass over. But it may be remarked that in those cases in which hæmorrhagy occupies an extensive space, affecting both hemispheres of the cerebrum,—as in meningeal hæmorrhagy at the summit, or at the base of the brain, in extensive hæmorrhagy within the brain, extending from one hemisphere to the other, or into both ventricles,—*general* paralysis is observed; the same event takes place in the cases in which a clot is formed in the mesial line in the tuber annulare,—the nodus encephali, as it has been termed.

The second chapter is devoted to the *True Spinal or Excito-Motory System.*

Its principle of action, the *vis nervosa* of Haller, and its anatomy, are first dwelt on. A table of the Anatomy will place it conveniently before the eye.

TABLE OF THE ANATOMY OF THE TRUE SPINAL SYSTEM.

I. *The incident Motor Branches:*
  1. *The Trifacial, arising from—*
    1. *The Eye-lashes.*
    2. *The Alæ Nasi.*
    3. *The Nostril.*
    4. *The Fauces.*
    5. *The Face.*
  2. *The Pneumogastric, form*
    1. *The Pharynx.*
    2. *The Larynx.*
    3. *The Bronchia.*
    4. *The Cardia, Kidney, and Liver.*
  3. *The Glosso Pharyngeal?*
  4. *The Posterior Spinal, arising from—*
    1. *The General Surface.*
    2. *The Glans Penis vel Clitoridis.*
    3. *The Anus.*
    4. *The Cervix Visicæ.*
    5. *The Cervix Uteri.*

II. *The True Medulla Oblongata and Medulla Spinalis, the Centre of the System.*

III. *The Reflex, Motor Branches.*
  1. *The Trochlearis* } *Oculi.*
  2. *The Abducens* }
  3. *The Minor Portion of the 5th.*
  4. *The Facial, distributed to*
    1. *The Orbicularis.*
    2. *The Levator Alæ Nasi.*
  5. *The Pneumogastric or its Accessory.*
    1. *The Pharyngeal.*
    2. *The Œsophageal and Cardiac.*
    3. *The Laryngeal.*
    4. *The Bronchial, &c.*
  6. *The Myo-glossal.*
  7. *The Spinal Accessory.*
  8. *The Spinal, distributed to the*
    1. *Diaphragm, and to*
    2. *The Intercostal* } *Muscles*
    3. *The Abdominal* }
  9. *The Sacral, distributed to*
    1. *The Sphincters.*
    2. *The Expulsors, the Ejaculators, the Fallopian Tubes, the Uterus, &c.*

And passing to the physiology, Dr. Hall favours us with a similar Table of it. They should be placed side by side.

TABLE OF THE PHYSIOLOGY OF THE TRUE SPINAL SYSTEM.

I. *The Excited Action*—
   1. *Of the Eyes, the Eye-lids; (and of the Iris?)*
   2. *Of the Orifices.*
      1. *The Larynx.*
      2. *The Pharynx.*
   3. *Of the Ingestion.*
      1. *Of the Food.*
         1. *In Suction;*
         2. *In Deglutition.*
      2. *Of the Air, or Respiration.*
      3. *Of the Semen, or Conception.*
   4. *Of Exclusion.*
   5. *Of the Expulsors, or of Egestion.*
      1. *Of the Fæcces;*
      2. *Of the Urine;*
      3. *Of the Perspiration;*
      4. *Of the Semen;*
      5. *Of the Fœtus, or Parturition.*
   6. *Of the Sphincters.*
      1. *The Cardia.*
      2. *The Valvula Coli?*
      3. *The Sphincter Ani.*
      4. *The Sphincter Vesicæ.*

II. *The Direct Action or Influence*—
   I. *In the Tone,* } *of the Muscular System.*
   II. *In the Irritability,* }

Dr. Hall observes that the true spinal marrow may be correctly viewed as a distinct *organ* totally different in its properties and functions from the cerebrum, and as the centre of a distinct system of nerves, different from the sentient and voluntary, and possessed of a peculiar and special motor power, which acts in incident as well as reflex directions, for special purposes—judging entirely from experiment. It may be received as a principle, that every part of the nervous system, which is endowed with the excito-motory power, belongs to this system, whether this power be exerted in the direction of the nerves *from* or *towards* the nervous centres.

He observes, too, that each nerve of the excito-motory system, with the exception, perhaps, of the pneumogastric, is a compound nerve, having a cerebral as well as a true spinal origin. Whether these may be traced by the scalpel is another matter.

On stimulating given incident nerves, the most usual effect produced is a motion of the limbs. But in other instances we have acts of inspiration, of deglutition, of expulsion,—of closure in the eye-lids, larynx, pharynx, and the sphincters. These excitor nerves may be viewed as *guards* of the orifices and exits of the animal frame, as seen in the subsequent *table:*

TABLE OF THE GUARDS OF THE ORIFICES.

I. *The Trifacial guards—*
  1. *The Eye.*
  2. *The Nostril—the Ear in the Cetacea.*
  3. *The Fauces.*

II. *The Pneumogastric guards—*
  1. *The Larynx, the Bronchia.*
  2. *The Pharynx, the Cardia.*
  3. *The Ureter, the Gall-duct.*

III. *The Spinal Nerves guard—*
  1. *The Rectum.*
  2. *The Bladder.*
  3. *The Vesiculæ Seminales.*
  4. *The Uterus.*

With each part of this series of excitor nerves are connected, through the spinal marrow, a corresponding set of motor nerves.

We are tempted to notice Dr. Hall's explanation of the physiological act of respiration. It is the opinion of several physiologists that respiration depends on the medulla oblongata as its primum mobile. It is founded upon the facts that the cerebrum may be removed from above downwards, and the spinal marrow from below upwards, without suspending the acts of inspiration, if the medulla oblongata at the point of origin of the pneumogastric be preserved entire. But if the nerves of the eighth pair be cut, respiration, though difficult, continues "From these several experiments," says Dr. Hall, "we should be apt to conclude, that neither the cerebrum nor the pneumogastric nerves are necessary for the acts of inspiration, since these acts are renewed when either is removed. The truth, however, is, that although the acts of inspiration continue without *either*, they will not continue without *both*. *Each* may be removed *singly;* but if *both* be removed, the inspirations cease, as in the experiment of dividing the medulla oblongata at the origin of the pneumogastric nerves, an experiment hitherto unexplained. In fact, inspiration may be a voluntary act, induced by the agency of the cerebrum, the pneumogastric nerves being divided; or it may be an excited act, excited through the agency of the pneumogastric nerves, the cerebrum being removed. If in this latter circumstance the pneumogastric nerves be divided, the acts of inspiration cease! In this last fact we have then the proof that the medulla oblongata is not the primum mobile of respiration; but that the pneumogastric nerve is that primum mobile, as an excitor of respiration, essential and necessary when the agency of volition, with its organ, the cerebrum, is removed—an important conclusion, by which many difficulties, and an interesting question, are at once solved."

Dr. Hall considers the carbonic acid evolved in the lungs as the stimulus or exciting cause of inspiration. And he ingeniously explains in this manner the accordance between respiration and circulation. This proportion, he remarks, obtains from the highest degree of activity in an animal, even to the most complete quiescence in hybernation. The evolution of carbonic acid is greater in proportion to the rapidity of the circulation: this carbonic acid is itself the exciting cause of inspiration; this act will therefore be repeated more or less frequently as the circulation, and with it the evolution of carbonic acid, is more or less rapid.

But the pneumogastric is not the sole excitor of inspiration. There are several, arranged thus:—

1. *The Trifacial.*
2. *The Pneumogastric.*
3. *The Spinal.*

But if these constitute the *excitor* nerves of inspiration, the medulla oblongata must be viewed as the organ which *combines* the various muscles into a system, and the various nerves comprised in the respiratory system of Sir Charles Bell are the true *motor* nerves of respiration.

Speaking of the *excited* act of deglutition, Dr. Hall alludes to a well known statement of Mr. Mayo's, viz.—If the action of deglutition be voluntarily performed several times in succession, and nothing but saliva swallowed, the parts become *fatigued*, and the operation cannot be immediately repeated. The real explanation of this last singular and interesting fact is this: an excited act requires a stimulus or excitor; the saliva is that stimulus in the first and second acts of deglutition; but in a third, attempted promptly after the second, this stimulus is wanting; the act consequently fails for want of its excitor.

Action of the Cardia.—This is paralysed on dividing the pneumo-gastric nerves. Dr. Hall states, that there seems to be a property of actual, not to say *active*, dilatation, in the cardia, as well as in some other sphincters. If we irritate the fauces, and induce the first disposition to vomit, we may be perfectly conscious of an act of opening of the cardia; a portion of gas escapes and ascends the œsophagus. A similar event doubtless takes place during deglutition. In regard to the sphincters, it is plain that they have the *power* of dilatation; gas may escape from the intestine noiselessly, and the urine from the bladder without effort; events very different from that generally supposed, of the sphincters being overcome by an antagonist force.—There is a fact of *practical* interest connected with this view; sometimes hæmorrhoids are protruded so that no force of pressure can replace them; but, by inducing the patient to make the effort usual in voiding the intestine, the sphincter relaxes positively, and the hæmorrhoidal tumor is returned with facility by gentle pressure.

An interesting Section is made up of *Practical Application of the Physiological Principles laid down.*

1. *Treatment of Choking.*—The danger from a morsel of food remaining in the pharynx arises from a reflex action closing the glottis. Dr. H. proposes this immediate remedy.

Pressure being made on the abdomen, to prevent the descent of the diaphragm, a forcible blow should be made by the flat hand on the thorax. The effect of this is to induce an effort similar to that of expiration; the larynx being closed, œsophageal vomiting takes place, and the morsel is dislodged.

If this plan fail, not an instant being lost, the pressure should be kept up on the abdomen, the finger should be introduced into the throat, and the same smart and forcible blow made on the thorax as before. By the irritation of the fauces, the cardia is opened, and by the blow on the thorax, (firm pressure being made on the abdomen), an effort similar to that of expiration, with a closed larynx, is made, and a direct vomiting occurs, and the morsel of food is carried away.

2. *Mode of passing the Stomach Tube.*—It is often required to pass the *stomach-tube* in cases of *poisoning.* Now, in doing this, the great object is to avoid the *excitors of vomiting.* This is done by passing the tube boldly through the isthmus faucium,—avoiding touching the base of the tongue, the posterior gums, or the veil of the palate,—to the posterior part of the pharynx. In this last part there are no nerves but those of the excitors and motors of deglutition; so that there is no difficulty in passing the stomach-tube, with these precautions, freely on into the œsophagus, and finally into the stomach itself. We cannot say that our experience has quite borne this out. Irresistible efforts to vomit are not unfrequently excited when the tube has passed some way down the œsophagus.

3. *The Use of the Pharyngeal Tube.*—It has been usual, with the object of administering food, in cases of cut-throat, of mania, &c. also to introduce the tube through the whole course of the œsophagus into the stomach itself. It occurred to Dr. Hall that it was unnecessary to adopt this measure, and that to introduce a tube, which may be called the *pharyngeal-tube*, within the influence of the excitor nerves of deglutition, and within the grasp of the constrictors of the pharynx, would be sufficient. The interesting experiment was performed by Mr. Arthur Stillwell, of Moorcroft House, upon an insane patient, who had refused food, and had been fed by means of the stomach-tube, and whose case indeed suggested it. It succeeded.

In the case of poisoning, the *stomach-tube* itself must be used. Yet, frequently, patients make ineffectual efforts to vomit under the conjoint influence of an emetic and of a narcotic poison; if, in such a case, the stomach-tube be introduced, vomiting is frequently perfectly accomplished through the tube itself, and along its sides, from the influence of the tube on the excitors of vomiting, and, through them, on the cardia,—and the further operation of the syringe may be unnecessary. But cases of severe poisoning will, however, require the syringe both for the injection and the extraction of fluids into the stomach.

It is generally necessary in the insane to open the mouth, and to retain it open by force. To avoid this necessity, Dr. Hall proposes to introduce a smaller tube along *the floor of the nostril;* in doing this, we pass it *below* the nasal branches of the trifacial, which are the excitors of sneezing, and *above* the palatine branches of this nerve, which are the excitors of vomiting. This suggestion was also adopted by Mr. Arthur Stillwell. A long, narrow, flexible tube, of the diameter of a large male catheter, was employed. It was passed just seven inches through the nostril, being incurvated towards the pharynx. The patient appeared entirely unaffected by the procedure. The fluid food was then propelled along the tube. Deglutition took place regularly, marked by the usual movements of the larynx: in vain did the patient try to expel it; saliva only appeared at the lips; the food had passed beyond the domain of *volition;* it had been seized by the actions of the excito-motory power. It passed freely onwards into the stomach!

4. *Irritation of the Fauces, to induce vomiting.*—From an ignorance, observes our author, of the physiology of these parts, a singular event has occurred. A patient wishing to excite vomiting, has introduced a feather,—too far,—*beyond* the excitors of vomiting, which he ought to have stimulated to their proper action, *to* the excitors of deglutition, under the influence of which the feather has actually been swallowed.

Dr. Hall relates some cases in point. We are tempted to mention the manner in which, in two instances, a long feather has been extricated from the œsophagus. In a case which occurred to Dr. Cleghorne, the third or fourth feather of a goose-wing, whole and entire, had been swallowed. The Doctor, and Mr. Morris, a surgeon, furnished themselves "with a long flexible whalebone, to each extremity of which a piece of sponge was fixed; with two strings reaching betwixt each. The strings were added to the instrument by Mr. Tuckey, some years ago, when he had occasion to use it, that he might have it in his power to extract the sponge, in case it should break loose from the whalebone in the *œsophagus;* and we readily perceived they might be of singular service in the present case, by laying hold of the web, if the whalebone was turned round its *axis.*"

"We first tried, by depressing the root of the tongue and inspecting the *fauces*, if we could see any part of the feather, or reach it with our fingers; but, this being to no purpose, Mr. Morris introduced the smallest end of the abovementioned instrument into the left side of the *fauces*, to avoid pushing down the feather, which we had reason to think was lodged in the right side of the *œsophagus;* and, having thrust it far down towards the stomach, he began to make the extraction by slow degrees, inclining the end of the instrument he held towards the left side, and twisting it round repeatedly, that the strings might have a better chance to take hold of the feather.

The first attempt proved unsuccessful, and so did another which I made after the same manner; but the third time, Mr. Morris, having introduced the largest end of the instrument as far down as he could into the *œsophagus*, was lucky enough to bring up the feather along with it into the *fauces*, from whence he extracted it with his fingers, about two hours after it had been swallowed." 83.

5. *Intraction of the Rectum Bougie.*—These are by no means solitary cases of this kind. The other extremity of the alimentary tube presents us with a phenomenon of a similar character. The action of this part of the animal frame is highly peculiar: after the expulsion of its contents, the last intestine has, through the medium of the internal sphincter and the levator ani, an inverted action; and an instrument, introduced for the purpose of relieving the intestine, has been suddenly grasped, snatched from the fingers of the operator, and drawn up into the rectum and colon.

6. *Severe Pain in the Rectum and its Remedy.*—"There is a peculiar and severe pain of the rectum, which comes on in paroxysms, generally during the first sleep, and of which I have not seen any description in medical writings. It appears to me to depend on some hæmorrhoidal tumor, compressed by the action of the sphincter ani. The infallible remedy is—to

rise out of bed, and to make a forcible and sustained effort to relieve the bowels. The changed position of the hæmorrhoid, under these circumstances of positively relaxed sphincter, and effort of protrusion, leads to perfect relief of the paroxysm of pain."

7. *Reduction of a Hæmorrhoidal Tumour.*—Dr. Hall observes that much difficulty has sometimes been experienced, not only by the patient, but by the surgeon, in returning protruding hæmorrhoids. Pressure alone is applied in vain. But if the patient be directed to make a forcible expulsive effort, and pressure be simultaneously made, the tumor frequently recedes immediately. The sphincter is positively relaxed; the ligature which it formed round the tumor is removed, and the reduction is easy. Dr. Hall asks: Would a similar measure aid the accoucheur in returning the prolapsed uterus? Would a similar effort ever assist in the passing of the male catheter?

8. *Intraction of the Female Catheter.*—The female catheter has been suddenly drawn out of the fingers of the surgeon into the cavity of the bladder. The accident is to be ascribed to successive, simultaneous contractions of the cervix vesicæ and levator ani, excited through incident and reflex nerves, in connexion with the spinal marrow.

Pathology of the True Spinal System.

Dr. Hall observes that, in disease, the morbid stimulus may act upon the incident, the central, the reflex part of the excito-motory arc or arcs, and produce corresponding effects,—corresponding diseases. So we may have centripetal, or central epilepsy, and we may have spasmodic tic, and other affections, from an affection of the reflex or motor nerves. Dr. Hall divides the class of spasmodic diseases into three sub-classes, of which he presents a Table.

TABLE OF THE PATHOLOGY OF THE TRUE SPINAL SYSTEM.

I. *Diseases of the Incident Nerves.*

- I. 1. *Dental*, 2. *Gastric*, 3. *Intestinal* — *Irritation in Infants.*
  - 1. *The Crowing Inspiration.*
  - 2. *Strabismus, Spasm of the Fingers and Toes; Strangury; Tenesmus; &c.*
  - 3. *Convulsion.*
  - 4. *Paralysis.*
- II. 1. *Gastric*, 2. *Intestinal*, 3. *Uterine* — *Irritation in Adults.*
  - I. *Hysteria.*
  - II. *Asthma.*
  - III. *Vomiting; Hiccup; &c.*
  - IV. *Epilepsy.*
  - V. *Puerperal Convulsion; &c.*
- III. *Traumatic Tetanus; Hydrophobia: &c.*

II. *Diseases of the Spinal Marrow itself.*

- I. *Inflammation and other Diseases.*
- II. *Diseases of the Vertebræ and Membranes.*
- III. *Counter-pressure, &c. in Diseases within the Cranium.*
- IV. *Centric Epilepsy, Tetanus, &c.*
- V. *Convulsions from Loss of Blood; &c.*

III. *Diseases of the Reflex or Motor Nerves.*
  I. *Spasm.* II. *Paralysis.*
    1. *Spasmodic Tic.*
    2. *Torticollis.*
    3. *Contracted Limbs; &c.*

Dr. Hall observes that the undue or unduly diminished quantity of blood in the medulla oblongata induces spasm or paralysis. It has been found too, *in experiments*, that lesions of the encephalon induce *paralysis only;* whilst lesions of the medulla oblongata and spinalis induce *convulsion or paralysis*, according to its severity. Hence it becomes an important question to determine the cause of convulsive affections in *disease* of the encephalon. This cause appears to be either irritation or counter-pressure: the former may act through the medium of the nerves distributed to the membranes, as the recurrent of the trifacial of Arnold,—as in epilepsy induced by a spiculum of bone; the latter is illustrated by the case of meningitis by Dr. Abercrombie, already quoted, in which the anterior fontanelle became prominent; pressure upon it induced convulsion.

Dr. Hall proceeds to treat of some pathological facts in detail.

Disease, he says, may take place in any of the three divisions of which the true spinal or excito-motory system consists: in the course of the incident excitor nerves; in the spinal marrow or centre of the system; or in the reflex, motor nerves. The action of disease, in the first of these cases, is incident, and either direct in its course, or from *above, downwards*, or retrograde, that is, from *below, upwards*. It always induces a *spasmodic* affection. The action of disease, or of the causes of disease, in the third, is, he believes, never retrograde, and may induce either spasm, or paralysis.

1. *The Cynic Spasm.*—"The first fact which I shall adduce in illustration of these principles, is one to which I have ventured to apply the designation of the *cynic spasm;* for it is probably the σπασμος κυνικος of Hippocrates; and it is certainly allied to the Sardonic laugh. It is excited through filaments of the trifacial nerve (the '*nervi ethmoidalis ramus narium externus*,' the '*nervi lateralis narum superiores, et inferiores*'); these, when excited under particular circumstances, induce contractions of the levatores alæ nasi. In a patient in the deep coma of apoplexy, I pierced the skin on the cheek, the hand, the thigh, &c. with a pin; there was no manifestation of sensation —no motion whatever. I then touched the eye-lash and the *internal* nostril with a feather; this induced action of the orbicularis and levator alæ nasi: I then pricked the *exterior* part of the nostril with the pin; the action of the levatores was immediate."

The Mechanism of Vomiting.—Dr. Hall's idea is this:—The contents of the thorax and abdomen are subjected to the sudden and almost spasmodic contraction of all the muscles of expiration, the larynx being closed so that no air can escape from the chest, and the two cavities being made one by the floating or inert condition of the diaphragm.

The mere mechanism of the act of vomiting differs little, therefore, from that of coughing, by which, indeed, the contents of the stomach are frequently expelled. The larynx in the former is, however, permanently, in the latter only momentarily, closed; and there is, doubtless, a different condition of the cardiac orifice and of the œsophagus.

So far as we can see, there is no proof of that passive, or floating condition of the diaphragm which constitutes the gist of Dr. Hall's hypothesis. Experiments, observation, and actual feelings, rather go to establish the contraction of the diaphragm during the act. An inspiration is made, the diaphragm *remains down*, the larynx is closed, and the abdominal muscles at the same time contract. Vomiting is neither concurrent with inspiration nor with expiration. It follows the former, and precedes the latter.—The breath in fact is held while we vomit. Of course the stomach may or may not contract. In many instances we believe that it does.

3. *Failure of the Excito-Motor Power.*—In cases of disease of the head, of exhaustion, of sinking—as the general powers of life decline, the gradual failure of the excito-motory power is particularly marked.

The first thing observed is, that the eye-lids do not perfectly close during sleep; they still, however, close on touching the eye lash. In a short time, not only the continued action of the orbicularis is defective, but the excitability of the border of the eye-lid is impaired, and the orbicularis ceases to act on touching the eye-lash.

The second effect of a failing excito-motory power is an affection of the respiration. This is first *audible*, as in sleep. It then ceases to be *equable*, and at length consists in sudden, *catching* inspirations,—a statement from which Dr. Hall has never seen a patient recover.

Lastly, the sphincters lose their power.

A Section on the *Therapeutics of the True Spinal System*, contains a few hints.

Their principal applications are in the treatment of asphyxia, of certain kinds of convulsion, of sickness, of asthma, of impaired power of the sphincter vesicæ.

In some cases of asphyxia, and especially in the case of the asphyxia of the newly-born infant, the excitement of the trifacial, or spinal, nerves, by exposure to the cold atmosphere, or dashing cold water on the face or trunk, is a most important remedy. We may also irritate the nostrils, the fauces, or the glottis, and attempt to excite the actions of sneezing, vomiting, and coughing. Galvanism may be applied with similar views.

The occurrence of convulsion is frequently prevented, and the larynx, closed in certain convulsions, is opened, by dashing cold water over the face.

Asthma is sometimes removed by the inhalation of certain vapours, as the smoke of the stramonium, the vapour of creosote, &c.

Enuresis has been remedied by the action of cantharides.

The feeble action of the uterus has been excited by the secale cornutum.

The Ganglionic System, or System of Secretion, Nutrition, &c.

Dr. Hall remarks that the cerebral system is concerned with *psychical* or mental acts merely; the true spinal, with *physical* acts on the *masses* of bodies to be appropriated to or expelled from the animal œcononmy; whilst the ganglionic system relates to the chemical changes in the disposition of the *atoms* of the animal body, its solids, fluids, &c. He goes on to state that there are external as well as internal parts which require the interstitial deposite and re-absorption of the atoms of the animal matter. It was to be expected, therefore, that there would be an external as well as internal ganglionic and nutrient system. This we find accordingly, although it has never been so viewed or stated before.

For the external organs, the ganglia on the posterior roots of the spinal nerves are probably destined; for the head, the series of ganglia found upon and in connexion with the trifacial nerve; for the lungs, stomach, &c. the pneumogastric; for the internal viscera, the ganglionic system, commonly so called.

Dr. Hall alludes in terms of just commendation to Sir Charles Bell's discovery of the difference of function between the anterior and posterior roots of the spinal nerves. He adds:—

> "But there is no connexion between the function of sensation and the existence of a ganglion; the unequivocal sentient nerves, as the olfactory, the optic, the auditory, are without any thing very distinct of this kind, whilst the ganglionic nerves are without sensibility, or nearly so.
>
> The questions, then, still remain, why are the portio major of the trifacial, especially, and of the posterior spinal nerves, provided with ganglia? The reply to these questions, and the argument, may be stated thus:
>
> 1. There is an internal nerve for formation, nutrition, secretion, &c. 2. This nerve is ganglionic. 3. There are external organs and structures requiring nutrition, &c. 4. There are also external ganglionic nerves. The inference is plain, that these constitute the external ganglionic sub-system. The fifth especially abounds with ganglia.
>
> It is true the semilunar and external spinal ganglia differ in appearance from the ganglia of the sympathetic, as Sir Charles Bell has well displayed. What is the nature of this difference? To this question I find no reply in authors.—It is plain, however, that the difference consists in their being, alone, *plexic*—The internal ganglionic nerve is purely nutrient: its ganglia are simple. The external involve sentient, and I believe excitory, nerves, with the nutrient; they combine, therefore, the appearances of the plexus and of the ganglion.
>
> But are there any other anatomical facts, any physiological and pathological facts, which lead us to think that the trifacial and spinal nerves, besides their other functions, possess a nutrient and secretory power? Indubitably there are. The distribution of this nerve to the lacrymal, parotid, and submaxillary glands, can only be for secretion. I may refer, upon this point, to the beautiful Dissertation of Signor Bellingeri.
>
> I must also notice particularly a branch of the trifacial nerve discovered by M. Arnold, and termed by him the *recurrent* of the fifth. It returns from the ophthalmic branch of this nerve, to be distributed between the laminæ of the tentorium. What can its function be, in this situation? It cannot be *touched*. It cannot, then, be for *sensibility*. It cannot be for *excited* motion. It can only be for formation, for nutrition. Such, then, is the *probable* function of this nerve." 122.

Dr. Hall sums up his observations on the Nervous System thus:—

This system is divisible into—

I. The Cerebral, or psychical, or that of our relation to the external world *mentally;*

II. The True-spinal, or excito-motory, or that of the reflex action of the *vis nervosa*, or of our appropriation of certain objects of the external world *physically* and *in masses;* and

III. The Ganglionic, or the system of *interstitial* or *chemical*, or *atomic* changes, of nutrition, secretion, &c. also under the immediate influence of the *vis nervosa*.

IV. Intermediate between the *first* and *second* of these is the influence of *emotion*, *passion*, &c.

V. Intermediate between the *second* and *third* are the internal muscular organs, the heart, the stomach and intestines, &c.: and these are under the *immediate* influence of the *vis nervosa* and the *irritability* of the muscular fibre.

VI. Lastly, the *tone* and *irritability* of the general muscular system are *constant* and *direct* effects of the True-spinal and Ganglionic systems, and of the *vis nervosa*.

The fourth Chapter is dedicated to the Fœtus and Infant. Some interesting remarks on the anencephalous fœtus are followed by others on the accidents or diseases of *birth—apoplexy and asphyxia.*

Of Congenital Asphyxia.—Dr. Hall draws particular attention to this.

"The infant is said to be *still-born*. We wait for the establishment of respiration, and this event does not take place. There is a general alarm. We now see the value and importance, in a *practical* point of view, of the principles of the physiology and pathology of the nervous system which I have been detailing. I have stated that respiration is an *excited* function; that it belongs to the excito-motory sub-division.

In one word, then, all our efforts must be instantly made to *excite* respiration. Now what are the channels through which this act may be excited? What are the excitors of respiration? The *trifacial*, the *pneumogastric*, and the *spinal* nerves.

The *trifacial* nerves must be excited by *forcibly* blowing or dashing cold water on the face, by stimulating the nostrils by ammonia, snuff, pepper, or the point of a needle.

The *spinal* nerves must be excited by *forcibly* dashing cold water on the thorax, the thighs; by tickling or stimulating the sides, the soles of the feet, the verge of the anus.

What the pneumogastric is, as the excitory nerve of respiration under ordinary circumstances, the trifacial and the spinal nerves are, in cases of asphyxia, or suspended respiration. The means recommended for exciting respiration through these excitors, frequently induce a sudden act of inspiration, which proves the first of a series, so essential to animal life.

The important point to be mentioned, is, that it is not the mere application of cold, but the *sudden* application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation*. To apply cold to a cold surface would only be to sink the general powers of life. The infant should be kept warm; the warm bath may be required; and then cold water must be applied, in *moderate quantity*, but with *force*.

But if these attempts to *excite* respiration through the trifacial and spinal nerves fail, we must *imitate* this function, by artificially distending the lungs, in the hope that, eventually, it may be excited through its wonted channel, the *pneumogastric*.

To effect this, the practitioner's lips are to be applied to those of the infant, interposing a fold of linen, and he is to propel the air from his own chest, slowly and gradually, into that of the infant, closing its nostrils, and gently pressing the trachea on the œsophagus. The chest is then pressed, to induce a full expiration, and allowed to expand, so as, if possible, to effect a degree of inspiration.

But it is important, in doing this, that the practitioner himself should previously make *several deep* and rapid respirations, and, finally, a full inspiration. In this manner, the air expelled from his lungs into those of the little patient, will contain more oxygen and less carbonic acid, and consequently be more capable of exciting the dying embers of life.

I base this suggestion on an interesting communication by Dr. Faraday, in the London and Edinburgh Philosophical Magazine, vol. iii, p. 241, for October 1833, to which I have already referred. It is ascertained that respiration may be suspended longer, as in diving, or in experiments, after such repeated forced respirations, than in ordinary circumstances, from the greater purity of the air in the lungs

If all these plans should be tried in vain, I would strongly advise galvanic or electric shocks, to be passed from the side of the neck to the pit of the stomach, or in the course of any of the *motor respiratory* nerves, and their appropriate muscles. No time should be lost in sending for a proper apparatus; but, should the lapse of an hour, or even more, take place before it *can* be obtained, still it should be sent for and tried.

When respiration is established, the *face* must *still* be freely exposed to the air, whilst the temperature of the limbs and body is carefully sustained.

In the *midst* of these efforts, it should, in the next place, be the office of two other individuals to maintain or restore the *temperature* of the little infant, by gently but constantly pressing and rubbing its limbs between their warm hands, passing them upwards, in the direction of the venous circulation.

An enema of gruel, at 98° or 100°, or *higher*, with a little brandy, should be administered.

As soon as possible, a little warm liquid, as barley-water, at blood-heat, should be given by means of the proper bottle, furnished with leather or soft parchment. A teaspoon must not be used for fear of choking. If the infant draws the liquid through its own lips, by its own efforts, there is no danger.

Lastly, these various means should be continued or repeated in the most persevering manner." 142.

Of Secondary Asphyxia.—Dr. Hall directs attention to this.

When an infant has been restored from a state of asphyxia, it frequently relapses into a *secondary asphyxia*, and is lost.

Sir Humphrey Davy experienced a secondary attack after breathing hydro-carbonate. A corporal of the Guards, after being apparently restored from asphyxia from submersion, was affected with convulsions and expired.

In a case of asphyxia from laryngitis, after the patient had ceased to breathe, the trachea was opened, artificial respiration was performed, and re-animation took place; but the patient expired shortly afterwards.

These facts should keep us upon our guard against secondary asphyxia: we should watch our patient, and be prepared with all our remedies; we should dash cold water on the face occasionally, and expose the face of the patient to the cool, free, open air; and we should enjoin, in an adult, frequent, full, respirations.

Dr. Hall adds:—"This secondary asphyxia is the cause of *sudden* death in some other diseases, as the *crowing inspiration*, to be treated of hereafter. In this disease, the infant sometimes dies in an instant—in the twinkling of an eye—much more suddenly, in fact, than from *mere asphyxia.* I believe the blood is poisoned from the imperfect respiration, and that the *coronary circulation* becomes insufficient to sustain the action of the heart, and that this organ therefore fails. It is in this manner that the most sudden of sudden deaths occurs, both in some cases of what I have designated secondary asphyxia, and in disease of the heart itself, and especially in ossification of the coronary arteries,—the impeded circulation through them which occurs in the fatty heart, and other diseases of this organ and of its valves.

The fact, in regard to the crowing inspiration, should suggest what is found so useful in other respects in this disease; viz. through *change of air*, and free exposure to its genial influences. The same indication is especially to be fulfilled in *all* cases of asphyxia, for a considerable time after all apparant danger has ceased."

CHAPTER V. is occupied with the *Diseases of the Nervous System in Infants and Children.*

Some are of cerebral, some of spinal origin. The *cerebral* diseases of infants may be divided into—

1. *Encephalitis.*
2. *Tuberculous Hydrocephalus.*
3. *Hydrocephaloid Diseases.*
    - a. *From intestinal Disorder.*
    - b. *From Exhaustion.*

Dr. Hall gives a good account of the symptoms of encephalitis and tuberculous hydrocephalus. The following case of supposed encephalitis, with anasarca, after Scarlatiana, is interesting.

> "A year and a half ago, Mr. Duffin took me to Highgate: we met Mr. Snow. The patient was a boy aged twelve. Sixteen days before, he had gone through scarlatina in its very mildest form; he had scarcely been confined to bed, and had not suffered from the *nimia medici diligentia*; he had appeared quite well.
>
> On Sunday morning he was seized with swelling of the face, which came on and increased equally suddenly and rapidly. With this symptom there was the appearance of sudden and serious collapse, and, soon afterwards, convulsions, followed by coma.
>
> When I first saw my patient, there had been, first, the appearance of collapse and sinking, then convulsions, and these were followed by deep coma. Wine and brandy on the table indicated sufficiently the previous state of the case. I felt persuaded, in spite of these appearances, that the only hope was afforded by relieving the vascular system within the head, and yet that the measure was not unattended with danger. This view was freely explained to the boy's father, who very sensibly said he confided his son's life to the hands of his medical advisers.
>
> We placed the patient upright, and Mr. Duffin opened the jugular vein. I kept my finger on the pulse whilst we allowed *twenty ounces* of blood to flow! The convulsions ceased, and the coma diminished, but did not disappear. We then ventured to open a vein in the arm, and abstract seven more ounces of blood!
>
> In less than an hour the little patient knew his parents. We prescribed calomel and purgative medicine; a cold lotion to the head, and fomentations to the feet: afterwards leeches were applied: but the bloodletting was the remedy to which the amendment was obviously due. The little boy recovered forthwith, and what is important, without the least symptom of the morbid effects of loss of blood." 153.

Dr. Hall remarks: 1st, that acute anasarca and convulsions may, and frequently do, follow the mildest cases of scarlatina; perhaps, because, after *such* cases, less precaution is usually taken to clear the bowels; 2nd. that in all cases of acute anasarca there is the danger of an affection of the head, arachnitis, or congestion, coma, or convulsion; 3rd, that in such cases the remedy is bloodletting—*bloodletting until relief and scucrity are obtained;* and 4th, that there is, in such cases, great *tolerance* of this remedy.

The Hydrocephaloid Disease.

Dr. Hall fairly vindicates his claim to originality in the description of this complaint.

The causes are thus mentioned. The exhaustion, on which it principally depends, has its origin, in early infancy, chiefly in diarrhœa, or catharsis; in the latter periods of infancy, in the loss of blood, with or without the relaxed or evacuated condition of the bowels. The state of diarrhœa has generally depended upon improper food, or intestinal irritation. It has very frequently succeeded to weaning, or to other changes in the diet, or to constipation. The catharsis has followed the administration of an aperient medicine, which, at such a moment of disorder of the stomach and bowels, is apt to act excessively. The exhaustion from loss of blood generally follows the inappropriate or undue application of leeches, or the lancet. Dr Hall, indeed, gives an useful caution. Of the whole number, he says, of fatal cases of disease in infancy, a great proportion occur from this inappropriate or undue application of exhausting remedies. This observation may have a salutary effect in checking the ardour of many young practitioners, who are apt to think that if they have only bled, and purged, and given calomel enough, they have done their duty; when, in fact, in subduing a former, they have excited a new disease, which they have not understood, and which has led to the fatal result.

Dr. Hall divides the affection into two stages—the first that of irritability, the second that of torpor.

In the first stage, he goes on to observe, the infant becomes irritable, restless, feverish; the face flushed, the surface hot, and the pulse frequent; there is an undue sensitiveness of the nerves of feeling, and the little patient starts on being touched, or from any sudden noise; there are sighing and moaning during sleep, and screaming: the bowels are flatulent and loose, and the evacuations are mucous and disordered.

If, through an erroneous notion as to the nature of this affection, nourishment and cordials be not given, or if the diarrhœa continue, either spontaneously, or from the administration of medicine, the exhaustion which ensues is apt to lead to a very different train of symptoms. The countenance becomes pale, and the cheek cool or cold; the eye-lids are half closed, the eyes are unfixed, and unattracted by any object placed before them, the pupils unmoved on the approach of light; the breathing, from being quick, becomes irregular and affected by sighs; the voice becomes husky, and there is sometimes a husky, teazing, cough; and eventually, if the strength of the little patient continue to decline, there is a crepitus or rattling in the breathing; the evacuations are usually green; the feet are apt to be cold.

A similar train of symptoms occurs in other cases, in which the strength of the little patient has been subdued and the vascular system exhausted by the abstraction of blood. In both cases, leeches are sometimes again applied to subdue this new form of disease, under the erroneous notion of a primary cerebral affection. This measure infallibly plunges the little patient into imminent, if not irretrievable danger. Sometimes the sinking state goes on in spite of every appropriate remedy. Stimuli, if efficacious, reduce the frequency of the pulse, and restore the wonted warmth, colour, expression, and smiles to the countenance.

Dr. Hall particularly insists on a close observation of the condition of the cheeks, in regard to colour and warmth. That condition, he observes, may be considered as the pulse of very young infants, indicating the degree of remaining power, or of exhaustion. In the present case, especially, there is no symptom so important, so distinctive. It is from the condition of the cheeks, in conjunction with a due consideration of the *history*, that the diagnosis of this morbid state, and the indication of the appropriate remedies, are chiefly to be deduced. The general surface, and especially the hands and feet, also afford important sources of information as to the condition of the nervous or vital powers. Next to these, the degree of frequency of the pulse, and the character of the breathing, are points of the greatest importance; during the stage of irritability, the breathing is quick; during that of torpor, it is slower, irregular, suspirious, and, finally, crepitous; the pulse changes in its beat, from being full becoming smaller, but retaining, perhaps, its former frequency.

We should be especially upon our guard, not to mistake the stupor, or coma, into which the state of irritability is apt to subside, for the natural sleep, and for an indication of returning health. The palor and coldness of the cheeks, the half-closed eye-lid, and the irregular breathing, will sufficiently distinguish the two cases.

The following is Dr. Hall's methodus medendi. The remedies, he says, for this morbid affection are such as will check the diarrhœa, and afterwards regulate the bowels, and restore and sustain the strength of the little patient. With the first objects, it may be necessary to give the tinctura opii, and chalk, and, afterwards, the pilula hydrargyri, rhubarb, and magnesia; with the second, sal volatile, but especially brandy; and proper nourishment, are to be given according to circumstances. But in this, as in many cases of infantile disorders, the milk of a young and healthy nurse is the remedy of most importance; in the absence of which, ass's milk may be tried, but certainly not with the same confident hope of benefit.

Five or ten drops of the sal volatile may be given every three or four hours; and twice or thrice in the interval, five or ten drops of brandy may be given in arrow-root done in water. As the diarrhœa and appearances of exhaustion subside, these remedies are to be subtracted, the bowels are to be watched and regulated, and the strength is to be continually sustained by the nurse's or ass's milk. The brandy has sometimes appeared to induce pain; sal volatile is then to be substituted for it; a dose of magnesia has also appeared to do good.

For the state of irritability, the warm bath is a remedy of great efficacy. For the coma, a small blister, or sinapism, should be applied to the nape of the neck. A state of exhaustion of the general system, as I have observed elsewhere, by no means precludes the possibility of real congestion of the brain. It rather implies it. In extreme cases, there are not only the symptoms of cerebral congestion during life, but effusion of serum into the ventricles of the brain is found on examination after death.

In every case, the extremities are to be kept warm by flannel, and the circulation should be promoted in them by assiduous frictions. It is of the utmost importance carefully to avoid putting the little patient into the erect posture. A free current of air is also a restorative of the greatest efficacy.

The Croup-like Convulsion.

Dr. Hall remarks that the origin of the croup-like convulsion was "erroneously referred" by the late Dr. J. Clarke to the cerebrum; and by the late Dr. Hugh Ley to compression and consequent paralysis of the pneumogastric and its recurrent nerves. It is in reality, he adds, an excitation of the true spinal or excito-motory system. It *originates* in

I. 1. *The Trifacial*, in teething.
    2. *The Pneumogastric*, in over- or improperly-fed infants;
    3. *The Spinal nerves*, in constipation, intestinal disorder, or catharsis. These act through the medium of
II. *The Spinal Marrow*, and
III. 1. *The Inferior* or *Recurrent Laryngeal*, the constrictor of the larynx;
    2. *The Intercostals* and *Diaphragmatic*, the motors of respiration.

This mode of viewing an important disease and *Class* of diseases is entirely new, and is the only true one. It points, too, to the *causes* and the *cure.* Dr. Hall presents us with an appropriate

Table of the Crowing Inspiration.

I. *The Excitors.*	II. *The Centre.*	III. *The Motors.*
1. *The Trifacial.*	*The Medulla oblongata.*	1. *The Recurrent of the Pneumogastric.*
2. *The Pneumogastric*		2. *The Intercostals.*
3. *The Spinal.*		3. *The Diaphragmatic*

When the *crowing inspiration* passes into actual *convulsion*, the larynx, from being *partially* becomes *perfectly closed*, and there are violent *expiratory* efforts, with consequent congestion of the encephalon, and all its terrific train of evils!

The same mode of viewing this important subject leads us to give its proper place to *each* of the series of symptoms: the *spasmodic* or *spinal* are the *first* in order; the *cerebral* the *second.* We are thus enabled to see the just relation and position of effusion into the ventricles of the brain in regard to this disease; it is the *effect*, not the *cause.*

Dr. Hall first combats the opinion of *the cerebral origin* of the disease. He argues:—

1. That the *changes* in the symptoms, whether for better, or for worse, are far too sudden to be dependent on *disease* within the head.

2 That the *effects* of its causes and of its remedies are of a character totally different from what would be seen in such disease.

3. That hydrocephalus—tubercular hydrocephalus—does not commonly produce the croup-like convulsion. This statement must, however, be received with caution, and be submitted to new observation.

Dr. Hall next assails the hypothesis of Dr. Hugh Ley.

In the *first place*, he believes that the cases adduced to support this view, are not cases in point, but, in reality, cases of other diseases.

"*Secondly*, supposing pressure upon the pneumogastric to exist, it would induce totally different phenomena from those actually observed in this disease: and it would not explain the *series* of phenomena which actually occur in it; for,

Such pressure would induce simple *paralysis.* This would, in the first place, affect the recurrent nerves, and the dilator muscles of the larynx; it would induce a *partial* but *constant* closure of that orifice, and a permanent state of dyspnœa, such as occurred in the experiments of Legallois, or such as is observed to be excited in horses affected with "*cornage*" or *roaring*, as described by M. Dupuy in his treatise "De la Fluxion Périodique," 1829, p. 117, &c. It would also induce paralysis of the inferior portion of the pneumogastric, with congestion in the lung or lungs, and the well-known effects upon the stomach of the division of this nerve, with paralysis of the cardia.

The disease in question, on the contrary, variously designated, "*peculiar convulsion*," "spasm of the glottis," &c., is obviously a *part* of a more general spasmodic affection, and frequently, indeed most frequently, comes on in the midst of the first *sleep*, in the most *sudden* manner; receding equally *suddenly*, to return, perhaps, as before, after various intervals of days, weeks, or even months; very unlike paralysis from *any* cause. Nay, the convulsive efforts in the muscles about the larynx are frequently quite obvious. There is even opisthotonos, or comprosthotonos, in some cases.

Thirdly. It not unfrequently involves or accompanies, as I have said, *other* affections *indisputably spasmodic*, as distortion of the face, strabismus, contractions of the thumbs to the palms of the hands,—of the wrists, feet, toes, general convulsions, and sudden dissolution,—a series of phenomena totally unallied to paralysis.

Fourthly. Indeed the larynx is sometimes *absolutely closed*,—an effect which *paralysis* of the recurrent nerve and of the dilator muscles *cannot* produce.

Fifthly. Paralysis from the pressure of diseased glands would be a far less *curable disease*, a far less *variable* disease, a far less *suddenly fatal* disease than the croup-like convulsion.

Sixthly Almost all recent cases are at once relieved by attention to three or four things, viz. the state 1, of the *teeth*; 2, of the *diet*; 3, of the *bowels*; and 4, by change of *air*; they are as obviously produced or reproduced by the agency of errors in one or more of these.

Seventhly. In fact, the croup-like convulsion is a *spasmodic* disease, excited by causes situated in the nervous centres, or eccentrically from them; in a case of spina bifida already mentioned, a croupy and convulsive inspiration was induced by gentle pressure on the spinal tumour; in cases from teething the attack has been induced and removed many times by *teething*, and by freely *lancing the teeth*, by crudities, and by emetics, by constipation and by purgatives, by change of air, &c.

Eighthly. There is a series of facts which prove the connexion of this disease with other forms of convulsions in children, and with epilepsy in the adult subject.

Ninthly. In protracted cases, congestion and effusion within the head occur as *effects* of this disease.

Lastly. Innumerable cases of undoubted croup-like convulsion have occurred, in which no enlarged glands could be detected in any part of the course of the pneumogastric nerve."

Dr. Hall's idea of treatment comprises the remedies—

1. *Against the attacks.*
2. *In the attacks, and in the threatening of the attack.*
3. *Against their effects.*

The remedies against the attacks, or the prevention, consists in avoiding all the exciting causes: dental, gastric, intestinal irritation; passion; vexation; disturbance; interrupted sleep, &c.

The remedies in the threatening of attacks consist in the watchful and prompt repetition of the same treatment; lancing the gums, relieving the stomach and the bowels. The sleep especially should be watched, and if there be a sardonic smile, or starting, or other symptoms, the little patient must be *gently* awakened, and the remedies just enumerated should be administered. Mental agitation must be most cautiously avoided. After the gum-lancet, Dr. H. would advise a copious enema of warm water.

If there be great threatening of an attack, Dr. Hall would tickle the fauces, dash cold water on the face, and irritate the nostrils, having the patient placed, as speedily as may be, in the warm bath.

To guard against the effects of the attacks, we may deplete the blood-vessels about the head with cupping, or leeches, apply the alcoholic lotion constantly all over the head, or, if the case be urgent, the ice-cap.

In addition to these measures, the secretions must be corrected, mild mercurials being given, perhaps, to affect the system; and diuretics, if the urine be scanty; afterwards, change of air is of undoubted efficacy; and a very mild tonic plan may be added with advantage, as minute doses of the sulphate of quinine, of the carbonate of iron, &c. Sponging with *warm* salt and water is also a valuable auxiliary remedy.

Dr. Hall dilates very fully on the employment of the *gum-lancet.* He does not use it merely to let the teeth traverse the gum, but as a sort of depletory scarification. We should lance, says he, the gums freely and deeply, over a great part of their extent, *daily* or *even twice a day*, and apply a sponge with warm water, so as to encourage the flow of blood.

The principal part to be lanced is the more prominent portion of the gum; but, in some urgent instances, Dr. H. has recommended the *lateral* portions also to be freely scarified.

We fear if this plan were generally adopted, that much mischief would be inflicted on the teeth.

Dr. Hall, after some further remarks, adds:—"I cannot conscientiously omit the expression of my conviction that the bloodletting system, and the calomel system of treatment, recently in vogue in this complaint, under the sanction of the highest authority, and under the impression that the affection was of *cerebral origin*, have been extremely injurious in their consequences.

I have seen only one case in which the plan which I have here proposed has proved unsuccessful, when employed in the *dawn* of the disease; and that case was attended by induration of the medulla oblongata, and tetanic symptoms; it was, in a word, of centric origin. But I have seen innumerable cases in which bloodletting and calomel had not prevented the recurrence of convulsions, and the consequent effusion into the ventricles of the brain."

For our own parts, while we admit that there is a great deal of truth in Dr. Hall's observations, we must say that they appear to us to be rather too exclusive. We certainly do think that in some instances, it is requisite to attack the head more actively than he advises. At the same time, we would earnestly beg the practitioner to bear what is said by our author in mind.

Paralysis from Dentition.

The following is an interesting case, the more so as a child of Dr. Grant's of Thayer Street, was the subject.

> "A little girl, aged twenty months, was taken, when suffering from dentition, with loss of the power of elevating the right arm—that of closing the hand remaining; there was no *other* symptom of cerebral affection. The suffering from dentition was undoubted; I therefore concluded that the case was one of paralysis from teething.
>
> The gums were freely lanced, the bowels were well moved, the diet strictly regulated; and, for *fear* of hidden disease within the head, two leeches were applied. An embrocation was prescribed for the arm.
>
> A few days after the attack of paralysis, this little girl was seized, in the early part of the night, with a fit of crowing inspiration. This event confirmed me in my diagnosis. The issue justified the view I had taken. The child recovered *perfectly*, without any energetic remedy being used for cerebral affection, by continued attention to the state of the gums, the stomach, and the bowels; an event which could scarcely have occurred from such simple measures, had there been such decided affections arising from cerebral disease." 189.

The sixth chapter is devoted to the—

Pathology of the Nervous System in Adult Age.

From infantile to adult age the cerebral system undergoes a gradual and progressive development; many of the phenomena of the true spinal system are consequently *obscured*. But they are only obscured, for, in the close of life, the true spinal functions are as energetic and as essential as its dawn.

Dr. Hall again draws attention to the distinction between *centric* and *eccentric* forms of disease of the nervous system—a distinction of the greatest importance, no doubt. Some observations on the leading characters of *cerebral* and of the *true spinal diseases* merit notice.

Cerebral diseases, says Dr. Hall, affect primarily the cerebral functions, and the true spinal functions consecutively. The diseases of the true spinal system induce changes in the excito-motory phenomena in the first place, and in the cerebral functions in the second. Cerebral diseases are generally more insidious in their progress than the true spinal, because slight aberrations of the cerebral functions are less observable than similar affections of the true spinal system; pain, vertigo, watchfulness, &c., are less striking than the slightest degree of convulsive movement or paralytic affection. It is on this account that the *first* symptom observed in cerebral disease is frequently one belonging to the true spinal system, especially *vomiting*, perhaps *strabismus*.

The true spinal diseases, especially those of eccentric origin, affect, in a remarkable manner, the set of functions belonging to this system: those of the eye and eye-lid; those of the larynx, of the pharynx; the respiration; the action of the expulsors and of the sphincters; that state of the muscles designated by the term *tone*. We must revolve in our minds the symptoms of epilepsy, of hysteria, of tetanus, of hydrophobia; the causes and phenomena of vomiting, of asthma, of abortion, of tenesmus, and of strangury, and we shall be forcibly struck with the justice of this remark. On the other hand, every convulsive effort affects the brain with congestion and its consequences, of which a fatal coma or effusion are not the least frequent.

Memoirs on the Condition of the Muscular Irritability in Paralytic Limbs —on the Morbid Reflex and Retrograde Actions of the Spinal Marrow—and on the Distinct Influence of Volition, of Emotion, and of the Vis Nervosa, follow. These Memoirs were published in the Medico-Chirurgical Transactions, in reviewing which, we noticed them fully. It will not be necessary, therefore, to revert to them.

The seventh chapter is occupied with the *Diseases of the Nervous System in Adult Age.*

Dr. Hall treats first of the—

Diseases of the Cerebral System.

Speaking of *Encephalitis*, Dr. Hall notices a fact which should be recollected. From insensibility, the patient does not void the bladder; this viscus becomes excessively distended, and there may be a stillicidium urinæ. In *every* case of insensibility—in every case of involuntary discharges of urine, we must examine the hypogastric region. We may observe that the same thing is apt to occur in fever, when there is cerebral oppression.

Dr. Hall draws attention to another practical fact. Not only the dawn and the course of encephalitis are insidious, but its termination is particularly so. In some cases, an unexpected state of *sinking* takes place, in which the symptoms, whether pain or delirium, &c., subside, and the patient is thought to be convalescent. The same event occurs in some other diseases, espectally enteritis. We must beware of this fact, too, and suspect some such insidious change, unless *all* the symptoms concur to denote returning health.

While alluding to the morbid appearances of encephalitis, Dr. Hall particularly directs attention to the fact—that the inflamed brain is *tumefied.*— This fact explains the occurrence of pressure, and its varied effects on different parts of the encephalon, frequently situated remotely from the part affected with inflammation, softening, &c. It is on this principle that we explain the occurrence of various affections of the true spinal system in inflammation of different parts of the cerebral system,—the strabismus, the vomiting, the various convulsions which occur in the early stage; and the stertor, the relaxed sphincters, &c. which occur in the latter stages of encephalitis.

On Congestion and Hæmorrhage.

Dr. Hall occupies a section with the subject of cerebral congestion and cerebral hæmorrhage. He observes, and observes truly, that the *antecedent* symptoms of palsy and apoplexy, like those of many other diseases, can only be learnt in private practice. In fact, however beneficial observation in hospitals may be, a man would be a coarse and a careless, and an unsuccessful practitioner who acted upon it alone.

Dr. Hall remarks that the attack of congestion, or of hæmorrhage itself, is frequently of the most sudden kind. There is total loss of sense and motion; the patient is flushed, comatose, breathes with stertor, and the pulse is strong and full. This is probably the case of congestion. In the attack of considerable hœmorrhage, there are the symptoms of *shock* inflicted upon the nervous system; pain of the head is followed by paleness, sickness, and vomiting, and fainting; coma, or paralysis, loss of speech, or of the power of swallowing, succeed immediately, or more slowly, probably according to the promptitude or the extent of the hæmorrhage. In the attack of partial hæmorrhage, these symptoms are observed in a slighter form; and it is some paralysis, hemiplegia, partial loss of speech, &c. which ensues. These observations, though, perhaps, in the main correct, are certainly not universally true. We have seen cases of congestion attended with symptoms of depression, and of hæmorrhage, with such symptoms as are attributed to congestion.

Dr. Hall applies his views with regard to bloodletting to the treatment of these cases.

> "The principal point which I wish to press upon my reader, in reference to bloodletting, is its different measure proper in mere conjestion and actual rupture. In the former there is extreme tolerance of loss of blood; in the latter, the system is extremely, and even dangerously, susceptible of this loss. The diagnosis is frequently difficult. I have pointed out the most distinctive symptoms. In addition to an attention to these, I must repeat the important injunctions—to place *the patient* in the perfectly upright posture before the blood is allowed to flow; to watch his countenance, his breathing; to keep *the finger* on his pulse; and, the moment the slightest indication of approaching syncope takes place, to arrest the flow of blood and place the patient recumbent.
>
> If early syncope occur, we must trust the future to local depletion by means of cupping to the occiput and the neck. If the patient lose a large quantity of blood without change, pursue and repeat the remedy boldly; his life depends upon ample depletion of the sanguiferous system: we must add to the energetic use of the lancet, that of the cupping instrument." 278.

There follow some remarks *on the Use of Tracheotomy.*

This may be employed so as to afford *time* for remedies to act. Dr. Physick suggested it for hydrophobia—it *might* be employed in that form of tetanus in which the patient dies of asphyxia—but, says Dr. Hall, "in *apoplexy from congestion* in the *coma after epilepsy, in puerperal convulsion,* I am persuaded that the fatal event might be averted by the timely adoption of this measure. The patient dies of asphyxia, and of an asphyxia which tracheotomy would, I believe, prevent; or of coma, which blood-letting would cure!" Dr. Hall adds—"there *is* such a case as paralysis of the pneumo-gastric nerve, and of the dilator muscles of the larynx; it occurs in deep intoxication, and probably in other cases of coma, as in that of apoplexy, of epilepsy, from opium, &c.

A patient affected with such paralysis from deep intoxication was rescued from impending death by tracheotomy, at the suggestion of Mr. Sampson of Salisbury. The case is published in the Medico-Chirurgical Transactions, vol. xx, p. 45, and forms one of the *most splendid achievements of modern Surgery.*"

After narrating the case at length, Dr. Hall concludes—it must be remembered—1. that dashing cold water on the face opens the larynx, and induces inspiration; 5. that there is one other measure to which recourse should be had more frequently: it is the induction of vomiting by irritating its excitors in the fauces; 3. that these and other measures must of course be fully tried before we proceed to the more formidable remedy of tracheotomy; 4. but that tracheotomy is a most important resource, and to be instituted when—*the others fail,* and *before it is too late.*

Mode of Action of the Causes affecting the Nervous system.—There are some brief but useful remarks on this head. It may be stated, say Dr. Hall, as a general principle, that the *first* effect of injury done to the nervous system, is a diminution of its functions; whilst the second or ulterior effect is the augmentation of those functions.

If we divide the spinal marrow in the frog, there is at the first a cessation of the reflex actions with that of the circulation; by-and-by, these return; after a time, their force is morbidly augmented.

In injuries of the brain and of the spinal marrow, in man, the same series of phenomena is observed.

When the trifacial nerve is injured by exposure to cold, there is at first numbness; afterwards, perhaps painful tic.

When the facial nerve is affected by severe cold, there is, at first, *paralysis,* and the face is drawn to the opposite side; afterwards there is *spasms,* and the face is drawn to the side affected.

In other instances, the first effect of the disease or injury subsides, without any subsequent augmentation of function. In hemiplegia, the paralysis of the face, the lips, the tongue, the leg, the arm, generally becomes mitigated, in the order enumerated, as the disease subsides, or is mitigated by our remedies.

In like manner the other diseases enumerated may pass from the first stage into a state of mitigation or recovery, without passing into the second stage.

On the other hand, the symptoms of the first stage may go on augmenting until death ensue, or the loss of the use of the limb or part affected be complete.

Effects of Disease of the Cerebellum.

Dr. Hall is inclined to think that disease of the cerebellum induces its peculiar effects on the genital organs, by irritating the medulla oblongata.—The effects observed in strangulation, in some cases of epilepsy, as well as in several experiments, induce him to suppose so.

Vomiting sometimes occurs as a prominent symptom, as in many other diseases of the encephalon. This, as well as the affections of the genital organs, is obviously a result of irritation of the medulla.

Convulsions are more frequent in diseases of the cerebellum than paralysis. They affect many parts, and resemble epilepsy; or only one part. There can be little doubt that it is the adjacent medulla oblongata which is really irritated so as to produce these phenomena.

In some instances there has been a loss of balance, such as occurs in intoxication.

Sometimes the sensibility has been affected,—exalted or impaired. In some cases there has been amaurosis.

Diseases of the cerebellum, when they induce paralysis, usually affect the *opposite* side of the body, and the inferior more than the superior extremities.

Tubercles in the Encephalon.—Dr. Hall makes an observation in regard to the diagnosis of these morbid growths, which, though it refers to no new fact, is still perhaps not familiar to all.

"In speaking of tubercles of the brain, I must allude to the important law discovered by M. Louis. in regard to tubercles:—that, beyond the age of fifteen, tubercles are never found in *any organ* of the body without being present in the *lungs?* In a doubtful case, then, we examine the condition of the thorax: if there be tubercles there, it is a presumption that there may be tubercles in the encephalon; if there be no sign of pulmonary tubercle, it is a presumption that the affection of the brain is not tuberculous. But, as pulmonary tubercles are not always easily detectible, we endeavour to ascertain, in the absence of signs, whether there be other reasons for suspecting tuberculous formation,—such as in hereditary strumous or tuberculous disposition, the general or local signs of tuberculous affection in the system, or in any organ, &c." 288.

Mania.

Dr. Hall asks:—" Are the morbid appearances *cause* or *effect* of the mania? That they may be the effect, and that it has been too exclusively regarded as the cause, I can scarcely doubt. The appearances are usually deposits of serum and of lymph between the arachnoid and pia mater; sometimes effusion into the ventricles, sometimes injection of the cortical substance.

If encephalitis is the frequent effect of mental harass and effort, why may not these appearances be the effect of the maniacal state?" Of course, the question is an important one, incapable, at present, of determination. But it is worth keeping in mind.

Dr. Hall has other views to propose. He inquires, 1. May not the pathology of mania be entirely the result of *shock* to the nervous system, arising from *mental effort*, in one case, and *mental emotion* in the other? And, 2, may not that pathology be entirely *intra-vascular*, as in the case of *exhaustion* from loss of blood, undue lactation, &c.

Non-restraint of Lunatics.

We agree with Dr. Hall in the following opinion. It has recently been proposed to abandon every kind of restraint. But this is to reject necessary resources for the safety, and remedies for the malady, of the patient.

What is required is, kind and judicious restraint, in the hands of kind and judicious guardians.

But *the* all-important means of cure consists in *society* in which *decorum* and *gentleness* of conduct are *strictly enforced.*

Diseases of the Cerebral Nerves.

There is a section on this subject. The following case of repeated amputations on account of pain in the stump is interesting. It is communicated to our author by Mr. Bransby Cooper.

Case.—"In June, 1834, a young married woman was admitted into Guy's Hospital with an 'irritable stump,' having submitted to three amputations under the following circumstances In the first place, she fell across a fender, and produced such extensive injury to the wrist joint as to render it necessary to apply to a hospital for relief, and, I believe, was first admitted into the London Hospital, under the care of Mr. John Scott, who amputated the forearm above the wrist. Of this operation she recovered in the usual time, and was discharged as cured. In a few weeks, however, the stump became very irritable, and she suffered from neuralgic pains, which became so intolerable that she applied to St. Thomas's Hospital, when she was admitted under the care of Mr. Tyrrell. (I am not sure whether she was at St. Thomas's or the London Hospital first.) A second amputation was then performed,—still, I think, below the elbow,—when the same circumstances followed as after the former operation, perhaps with somewhat of an increase of neuralgic sufferings, when she fell under the care of Mr. Langstaff, who, after trying constitutional remedies, had recourse to a third amputation, above the elbow. In June, 1834, the stump of the upper arm giving the same suffering as she had before been subjected to, she presented herself at Guy's Hospital, still willing to submit to any treatment which could offer any hope of permanent relief; and, after trying veratria, stramonium, belladonna both internally and externally, without affording any mitigation of her sufferings, she readily submitted to the only remaining means which afforded a prospect of success—amputation at the shoulder joint, which she bore with heroic fortitude, and described the suffering as being infinitely less than she had frequently experienced during the paroxysms of her complaint; nor, in the division of the trunks of the nerves, did there appear to be more pain inflicted than in amputations under ordinary circumstances. The wound readily healed, nor had she ever after any severe neuralgic symptoms, although for some time there seemed rather more irritability about the surface of the skin than usual. In about two months after the amputation, she left the hospital, cured. I have several times seen this patient since; the last time about three years since, when she had had no return of her former distressing symptoms." 303.

As an instance of the *influence* of the trifacial nerve upon *vision*, Dr. Hall mentions a case under his own care. In it a partial *amaurosis* of the right eye has arisen, apparently from caries of the upper canine tooth of the right side; it was augmented by unsuccessful attempts at extraction; it has not ceased, however, since the extraction was effected.

Dr. Hall relates a case of paralysis of the trifacial nerve in its exterior course, reminding his readers, at the same time, of the difference between the cause of paralysis of sensation of the face in hemiplegia, or from division of the *trifacial* in a part of its course *exterior* to the cranium, and that arising from the division or disorganization of this nerve *within* the cranium. In the first two cases the eye is unaffected, in the last, this organ gradually perishes, he supposes, from the destruction of its ganglionic or nutritive portion.

Paralysis of the Hypoglossal Nerve.—This case is quoted from Dupuytren. There were rheumatism of the neck, situated along the vertebræ and occiput; and the gradual loss of muscular power, with atrophy of one half of the tongue, the sense of taste towards the base of the tongue remaining entire. The hypo-glossal nerve is supposed to have been involved in the disease at and after its exit from the cranium; hence the affection of the tongue. The scarificator and cupping-glasses were repeatedly applied behind the mastoid processes, with satisfactory results.

Paralysis of Motion from Pressure on the Anterior Roots of the Spinal Nerves.—The case has been depicted and described by Sir Charles Bell in the Philosophical Transactions, for 1840.

"Plate IX. exhibits a tumor which engaged the *anterior* roots of the several nerves as they form the *cauda equina* within the tube of the vertebræ. The tumor was of the form of an almond, but larger, and into it the *motor* roots, both of the right and left side, were gathered, whilst the *sensitive* roots were free." "The lower extremities were deprived of motion, whilst they retained sensibility, and symptoms of so much interest were noted and discussed by the physicians and pupils." 312.

Dr. Hall doubts whether *spasm* ever affects the true cerebral nerves. He says:—The substance of the brain; the olfactory nerves, the retina, the optic nerve; the auditory nerve, the glossopharyngeal, are *insensible* and *inexcitor* when wounded or pinched. Wounds of these do not induce spasmodic contraction. No experiment has hitherto been made upon any purely *cerebral* voluntary nerve, with the view of determining whether, in such a case, there would be spasmodic action. Perhaps such a nerve does not exist entirely free from the intermixture of *true spinal filaments*. Is the levator palpebræ of this character? These, with many other questions, are still left for future inquiry,—by experiment and observation.

Diseases of the True Spinal System.

Such diseases, says Dr. Hall, of the spinal marrow, as may materially affect its functions, induce in the first place, paralysis of the cerebral nerves, sentient and voluntary, which run along its course, forming a part of its structure; and, in the second, either an excited or paralysed condition of its own peculiar functions. The symptoms comprise, therefore, paralysis of sensation and voluntary motion, in parts below the disease, with spasm and ultimately paralysis, resulting from the affection of the *true spinal* marrow. Dr. Hall notices these diseases in the following order:

I. *The Central Diseases, or Diseases of the True Spinal Marrow itself.*
II. *The Centripetal Diseases, or diseases excited through the Excitor Nerves.*
III. *The Centrifugal Diseases, or Diseases of the Motor Nerves.*

Inflammation within the Spine.—Dr. Hall acknowledges the difficulty of distinguishing, by the symptoms, inflammation of the meninges from that of the substance of the spinal marrow. But, in general, the symptoms of meningitis are *more* those of *irritation* of the spinal marrow, or *spasm?* those of *myelitis*, *more* those of *destruction* of the organ, or paralysis. Both kinds of symptoms may exist, however, or follow each other, in both diseases.

Dr. Hall thus proceeds to specify the symptoms as well as he can.

Among the first symptoms of spinal *meningitis* is local *pain* in some part of the spinal column, augmented by the movements of the patient, and by percussion, but rarely, if ever, by pressure along the spine. This pain sometimes extends along the back and limbs, in which there is then tenderness on pressure,—a symptom which may serve to distinguish meningitis from myelitis, in which there is usually loss of sensibility.

The next important symptom is spasm, or various kinds of muscular contraction. The head, the neck, or the trunk is bent backward, or there is trismus, torticollis, partial or complete opisthotonos, or contraction of the limbs, constant, or recurrent, or exacerbated, in paroxysms, on moving, on being moved, &c with extreme pain; sometimes there are convulsions.

The respiration is sometimes difficult. There is sometimes retention of urine and constipation.

The symptoms will vary according as the meningitis exists at the base of the brain, at the upper, or at the lower, part of the spine principally.

The symptoms of spinal *myelitis* are those of paralysis of sensation and voluntary motion; a sense of numbness, an impaired sensibility, a sense of feebleness, an impaired muscular power, are first observed, singly or combined, in one or both of the inferior or superior extremities.

In some cases, probably of complication with meningitis, there is augmented sensibility. In other cases there are spasmodic or convulsive affections.

If the disease proceeds, the paralysis of sensation and voluntary motion gradually augments. Generally the paralysis affects first the inferior, and afterwards the superior extremities; far more rarely it pursues a contrary course: occasionally the motions alone, and very rarely the sensations alone, are paralysed.

If the disease occupy the *upper* parts of the spinal marrow, the respiration, and even the action of the larynx and pharynx become impaired, and we have difficulty or choking in swallowing, or asphyxia. There is sometimes the sensation of a cord-like tightness across the epigastrium. If the *lower* part of the spine be affected, the bladder, the rectum, and their sphincters, are variously paralysed, and there may be retention of urine and constipation, or involuntary evacuations, or retention and involuntary flow of urine may be combined. The condition of the bladder and the condition of the rectum should be ascertained by proper examinations, *in every case.*

In some instances thare is perfect impotence, or inertia of the uterus: in others, the patient has become a father, or the uterus has become excited to expel the fœtus.

Dr. Hall passes to *the Centripetal Diseases*, which originate at a distance from the spinal centres. And first of *Centripetal Epilepsy.*

This form of epilepsy takes its origin in the *excitor nerves* of the true spinal system, involving the axis of this system, and its motor nerves, in their turn; functionally, however, not organically. It is to be viewed as *curable*, however *difficult* of cure. By avoiding the exciting causes, its attacks are avoided; the susceptibility to returns subsides; these returns become less frequent and less severe and at length frequently cease altogether.

The principal causes of eccentric epilepsy are—1, the presence of indigestible food in the *stomach;* 2, the presence of morbid matters in the *intestines*; 3, *uterine* irritation. The first of these acts through the medium of the pneumogastric; the second and third through that of peculiar spinal nerves,—all *excitors* belonging to the true spinal system.

Dr. Hall presents a table of the phenomena of epilepsy.

TABLE OF EPILEPSY.

I. *The Excitors.*	II. *The Centre.*	III. *The Motors.*
1. *The Pneumogastric in the Stomach.*	*The Medulla Oblongata.*	1. *The Recurrent of the Pneumogastric, closing the Larynx.*
2. *The Spinal in*		2. *The Spinal, inducing*
1. *The Intestine.*		1. *Forcible Expiration.*
2. *The Uterus.*		2. *Convulsion.*
		3 *Expulsion of the Urine, &c.*

The treatment of this form of epilepsy essentially consists in avoiding the causes, in moderating the paroxysms and in subduing vascular fulness.—The strictest rules must be laid down for the diet, for the state of the bowels, for conducting the catamenial periods. These last should be passed in bed; the feet and abdomen should be fomented; the warm-water enema, warmer than usual, and the opiate enema, should be administered.

The immediate accession of the paroxysm may sometimes be prevented by dashing cold water on the face, or by exciting the nostrils by snuff, &c. In this manner the disposition to closure of the larynx, and expiratory efforts, is exchanged for sudden acts of inspiration. Or the fauces must be irritated, or an efficient emetic be given.

The stupor, or coma, continues Dr. Hall, induced by the paroxysm, may require the administration of bloodletting, general or topical, according to its degree and deviation, and probable effects. But *tracheotomy* is the remedy against the stupor, or coma, following the attack of epilepsy, if it exist in an *extreme* degree.

> "The views which I have given of centripetal epilepsy are amply confirmed by the facts, that there is no constant morbid change observable in this disease and that many patients, after long years of its attacks, have finally and fully recovered; facts which ought to encourage us steadily to pursue the mode of treatment." 326.

We must say that this quite accords with our own experience. Many cases of epilepsy are remediable, if not curable. The great thing is to avoid the exciting causes, and to determine, if it be possible, on what the epilepsy depends.

Dr. Hall thus distinguishes hysteria from epilepsy;—vast indeed, he observes, is the distance which separates hysteria from epilepsy; yet how *similar* are the symptoms of these two diseases. There is *one* great distinction —in hysteria, much as the larynx may be affected, it is never closed; in epilepsy it is closed: in the former, we have *heaving, sighing, inspiration;* in the latter, *violent, ineffectual efforts* at *expiration:* in the former, the cerebrum, the true spinal marrow, are comparatively unaffected; in the latter, they are in a state of congestion.

Dr. Hall naturally laughs at the idea of animal magnetism.

Spasmodic Asthma.

The following passage will shew what Dr. Hall's views are:—"The simplest form of asthma is that immediately induced by taking some indigestible substance; or, perhaps, still more immediately induced by the inhalation of certain kinds of dust diffused in the atmosphere, as that raised by shaking a feather-bed, the powder of ipecacuanha, &c. The incident branches of the pneumogastric, or internal excito-motory nerve, are excited; the action is reflected by the medulla oblongata upon the motor branches, and as I believe, upon the circular muscular fibres of the bronchial tubes. These tubes are contracted, and the phenomena of asthma are induced. A constipated state of the large intestine acts in the same manner through the incident spinal nerves. Contracted bronchial tubes explain all the phenomena: the dyspnœa, the urgent, rapid, imperfect, bronchial inspiration; the protracted wheezing bronchial expiration; the bronchial rattles under the stethoscope especially during expiration; the excited secretion of mucus; the cough; ultimately, the dilated air-cells, the dilated heart, &c."

Tenesmus and Strangury.

"I had recently a most interesting case of spasmodic stricture of the sphincter ani. The finger could scarcely be introduced. It was discovered that a calculus existed in the urethra; when this was removed the stricture immediately ceased." 339.

Tenesmus almost always implies the existence of strangury, and strangury that of tenesmus. They induce each other; they are *similar excito-motory* phenomena, affecting the exits of two organs.

Spasmodic Strabismus.

"I have already noticed the strabismus which arises from *paralysis* of cerebral and voluntary nerves, and some of the muscles of the eye-ball. I now wish to draw my reader's attention to another form of strabismus, not hitherto distinguished from the former, and which I believe to be an affection of the roots of the motor nerves of the true spinal system.

In the former case, the patient can frequently move the eye-ball fully, in every direction except one; at a certain point, the eye-ball stops, although the other eye continues to pursue an object placed and moved before it. This is the case with a patient at this moment under my care for attacks of sickness, with defective vision and motions of the eye.

In spasmodic strabismus the motions of the eye may be perfect, except on certain occasions of excitement, or of disorder, or of intense application, or of employment of the eye; the strabismus then becomes apparent; the eye-ball is obviously *drawn* in one particular direction.

In one interesting little girl, aged about three years, the strabismus came on whenever a stranger came into the room, whenever she was asked to read, &c." 342.

The last chapter is dedicated to:—

Diseases of the Nervous System of Remote Origin.

They are enumerated thus,

I. *Intestinal Irritation.*
II. *Exhaustion from loss of blood.*
III. *Chlorosis.*
IV. *Arthritis.*
V. *Excessive study, shock, alcohol, &c.*
  1. *Delirium tremens.*
  2. *Delirium traumaticum.*
VI. *Affections of the kidney.*
  1. *Dropsy.*
  2. *Diabetes.*
  3. *Other morbid affections of the Urine.*
  4. *Ischuria.*

Intestinal Irritation.—This consists of the irritation of indigestible food, scybala, or other morbid contents of the stomach, or bowels, excited into activity by some *shock* of the system, or of the nervous system, such as a fall or other accident, parturition, &c.

The symptoms are, rigor, frequently severe heat of surface, and violent pain of the head, with intolerance of light and of sound; the symptoms, in a word, of the most acute encephalitis.

The breath is tainted, the tongue loaded and swollen, the secretions morbid. The first step to be taken in a doubtful case, is very slowly to administer an enema of from three to three and a half pints of warm water, and to examine the state of the fæces, and observe the effect upon the disease and upon the system. If there be scybala, if the symptoms be subdued, and especially if there be faintishness, the case is indubitably not cerebral inflammation, but intestinal irritation.

If the case still remain doubtful, we must prepare the arm, open a vein, and then place the patient upright, and let the blood flow until the lips become pallid; if the case be encephalitis, an extreme quantity of blood will flow, even thirty or forty ounces, or more, before there is any appearance of syncope; if it be intestinal irritation, syncope occurs before one-fourth of that quantity has left the circulating system!

We believe we have selected many observations of interest and value. We have been guided in our choice by a desire to present what is most novel, and most important. Repetition there must be, for that is a characteristic of Dr. Hall's works.

Of the volume itself we need *say* little, having *done* so much. It is a fair sample of Dr. Hall's efforts, and would stamp him, were there nothing else to do so, as a keen and vigorous thinker, and a man of originality and genius. We trust he will continue to devote his talents to the prosecution of the physiology and pathology of the nervous system.

ON THE CONSTRUCTION AND MANAGEMENT OF HOSPITALS FOR THE INSANE; WITH A PARTICULAR NOTICE OF THE INSTITUTION AT SEIGBURG. By Dr. *Maximilian Jacobi.* Translated by *John Kitching.* With Introductory Observations, &c. by *Samuel Tuke.* Octavo, pp. 299. London, Churchill, 1841.

THIS is an elaborate work on hospitals for the insane. It is quite a handy book on the subject, and should be in the possession of every one who has the management of such institutions. It would be out of our way to go into these matters at length, and we shall limit ourselves to noticing some points of general interest.

The introduction by Samuel Tuke is written with much judgment, and with equally good feeling. A vein of sound benevolence, equally removed from cant and coldness, runs through it, and many of the suggestions contained in it deserve the attention of the public and Legislature.

The state of pauper lunatics appears to be any thing but wholesome. A large portion are confined in private houses, where they are of course received for profit; and in which it would be unreasonable to expect, that such an expenditure in proper buildings, in the enclosure of grounds for exercise, and in the provision of a sufficient number of competent attendants, should be made, as the circumstances of the disease render of the utmost importance. If all these things were provided in the manner most calculated to promote the recovery of the patients, it would not, in Mr. Tuke's opinion, be found that eight shillings a week, which is not the lowest price at which lunatic paupers are contracted for, would, to say nothing of medical attention, cover the charges of board, bedding, and clothing, in addition to rent and wages. It must be remembered that the cost of patients, as stated in the reports of our county asylums, does not include the items of rent and interest of capital.

Where a tenderer regard has been evinced, and a public provision made for the insane poor, it is far from what would be desirable. The Legislature has empowered the magistrates in Quarter Sessions, to erect suitable houses for the cure and care of the insane poor: they are authorised in these erections to make provision for other classes than paupers, and also to unite such establishments to any existing charitable institutions for the relief of the insane. Yet there are more than twenty English counties which have made no distinct provision for their insane poor.

The surveillance of asylums is any thing but perfect. There are no regularly appointed visitors. Mr. Tuke strongly recommends such, under the authority of Government, to inspect all the places of whatever description, private or public, chartered or unchartered, in which the insane are confined; to compare the degrees of human misery in these abodes—to ascertain how it may be most effectually provided for and alleviated,—to collect information under uniform heads, from all these institutions, and to report, annually, to the public, the results of their observations and inquiries.

Mr. Tuke refers with satisfaction to Dr. Jacobi's advice, to restrict establishments for the Insane to two hundred patients. If it be thought, he says, that the proper superintendence and medical care of this number is a sufficient charge for one individual, as the directing head, it does not appear that any argument in favour of large collections of lunatics, is to be drawn from the consideration of economy. A comparison of the cost of management in public schools of various sizes, has long led him to doubt, whether an establishment of any description, for three hundred persons or any larger number, will be managed *so* economically as one, containing from fifty to an hundred and fifty, would be likely to be. Every thing seems as if it must be done upon a magnificent scale in these large establishments, which of course swells the outlay; and from the returns made to Parliament of the average weekly cost of patients in the county asylums, it appears that Cheshire, a small establishment, is lower than Lancashire; that Norfolk is lower than Middlesex; and Suffolk than the West Riding of Yorkshire. Is it not also worthy of consideration, whether benefit would not be derived from diffusing the knowledge of the treatment of this disease more widely; which would be the consequence of establishing a larger number of hospitals for those who labour under it.

Mr. Tuke thinks that *the County Asylums should receive other besides pauper patients.* "Observation," he remarks, "in the York Asylum, in which patients of various classes in regard to property are received, convinces me that such an union of provision in one institution is in many respects advantageous. As there is no County Asylum for the North and East Riding of Yorkshire, many of the paupers in these districts are placed in this establishment; but I believe its service to the public has not been less, in having provided on moderate terms, and in a manner adapted to their condition, for the treatment of many patients of a class above paupers. The higher classes of patients who can afford to pay from twelve to twenty-one shillings per week, are of course a source of profit to the institution, and there have generally been so many in the house of this and a still higher class, as to cause the income from the patients to exceed the expenditure on their account, notwithstanding the much larger number which has been constantly admitted at less than eight shillings per week."

The highest class of society is not very likely ever to patronise County Asylums.

Medical Attendance.—The Asylums in England and Scotland, whether founded under the Act of Parliament or by voluntary charitable association, have generally a medical officer as the director of the establishment, and the medical treatment is entrusted to him, in conjunction with one or more non-resident physicians, who visit the patients twice or thrice a week. In a few establishments, the whole medical and moral management devolves upon the resident physician or surgeon. Mr. Tuke thinks that this does not work well. There ought to be the check, as well as the stimulus of a plurality of officers. If, for the purpose of obtaining more close medical attention, and a more uniform system of treatment, the plan of having outdoor officers is abandoned, there should be, at least, two resident officers who, though not equal in authority, should be united in the consideration of the plan of treatment. But Mr. Tuke rather leans to the employment of one resident medical officer, and a non-resident physician. The arrangement at the Siegburg institution is remarkable. For the care of two hundred patients, there are three resident medical officers, two ministers of religion, two stewards who have more or less intercourse with the patients, and also three superior attendants, who rank next to the officers of the establishment, and have the immediate direction of thirty-six attendants, (of whom we shall speak hereafter,) who have the personal care of the patients and their apartments. Thus we have introduced into the asylum a very large proportion of sane, and also, it is presumed from their station, of intelligent persons, who are very frequently coming into contact with the patients and their attendants, and whose intercourse and oversight are likely in various ways to operate beneficially upon both these parties. But to make such a plan beneficial, there must be a full confidence in the use and adaptation of the means employed, and a supply of efficient, judicious, and conscientious instruments for the carrying it into effect. For our own parts we think this not a little overdone. "Too many cooks spoil the broth," in madhouses as well as better places. The consequence of so many officers being huddled together would probably be either neglect or squabbling.

Mr. Tuke observes:

"The last thirty years have certainly witnessed an extraordinary improvement, in regard to the principles on which our houses for the insane, private as well as public, are professed to be conducted. The general recognition of sound principles indicates that to a considerable extent they are brought into operation. We have still however, I apprehend, many steps to take before it can be said that we are availing ourselves, whether through the influence which mind has upon body, or which body has upon mind, of all the means which are afforded us for the cure or alleviation of insanity. In this course we may derive many useful hints from our continental neighbours; and we may reasonably expect that as the wants and capabilities of the insane become more correctly appreciated, and the qualities of mind required to supply them are better understood by the public at large, that the friends of patients will not be satisfied without obtaining for them those provisions which will most tend to their recovery; and that the persisting demand will lead to the supply of a greater number of persons who, in the various departments of our asylums, are qualified for the delicate office of administering to disordered minds. This, it must be acknowledged, is our great desideratum: it is the character of the persons engaged more than the change of system, or the increase of the number of officers, which will effectually raise the condition of our asylums; and I would observe that, if officers should be introduced into our establishments, charged more especially with the moral treatment of the patients, we ought never to let this duty devolve exclusively upon them; *all* should have their share in it, who are charged with any portion of the care of the patients; but in an especial manner ought the resident manager to feel this as a most important part of his duty. And in the selection of such an officer, the qualifications for moral management, amongst which I would specify,—a ready sympathy with man,—and a habit of conscientious control of the selfish feelings and the passions, ought ever to be sought as carefully as medical skill. If a moral manager and religious instructor be chosen, he should be one who knows experimentally the religion of the heart, who can condescend to the weak and the ignorant, and who, in the best sense of the phrase, can become all things to all men. I have observed, that the most successful managers of the insane have been those who were most humble and unselfish; and it is only persons of this class who will ever effectually supply their intellectual and religious wants.

A person of an opposite description, however talented, or however conversant with the philosophy of mind, or the doctrines of religion, can never exercise efficiently this divine art of healing." xx.

Classification of Patients.—Mr. Tuke of course recommends this. Dr. Jacobi proposes the following arrangement. 1. The raving and violent patients. 2. The noisy, whatever may be the kind of their insanity. 3. The dirty unbridled patients, or those sunk in a deep state of sexual excitement, with whom the depraved idiotic and stupid may be associated, if at all admitted into the establishment. 4. Those whose propensities and habits make them hurtful companions. 5. The melancholy and suicidally inclined. 6. The quiet and decently behaved. 7. Along with the preceding class must be a subdivision for the convalescents. This is the arrangement which he proposes for the patients in general with reference to their state of mind, independently of rank or payment, which of course leads to other divisions on which it is not essential to dwell. It must be borne in mind, that this classification of the patients is to be maintained by a system of prompt change, according to the fluctuations of their mental condition.

It was proposed, in the Wakefield Asylum, to divide the patients into three principal classes. "1. Those who, according to their states of mind, their capability of self-control, and the degree in which they were likely to annoy or be agreeable to each other, are disposed to incoherent laughing and singing, and generally all those who are capable of very little rational enjoyment. 2. Those who are capable of a considerable degree of rational enjoyment. 3. The convalescents and the well behaved patients, who are most capable of common enjoyments. The first class of course was intended to include the idiotic and demented as well as those who were most subject to violent action; and for these additional means of separation were planned by the provisions of a set of apartments, with a gallery, in which the most offensive patients could be at any time separated from the others of the class to which they belonged. This may be said to constitute four divisions; and if the number of patients associating together, were properly limited, and labor were efficiently introduced, I am inclined to think that a more refined division is not needful in a pauper asylum. The melancholy were to be divided between the second and third classes, according to their state of mind; it being thought undesirable to put all the dejected patients together: and I cannot see any substantial ground for Dr. Jacobi's change of opinion, as regards the bringing of this class of patients into one miserable congregation. In regard to the third, or best class of patients, in any other than an asylum for the labouring classes, the provision of a distinct apartment, where a few of the most rational, whether strictly convalescent or not, could associate together for reading, writing, conversation, &c. would be highly desirable; but it was considered that, in the Wakefield asylum, most of the patients, who were in the best state of mind, would be engaged in labour; and a work-room was also provided, which might be said to constitute another division: and, as it was presumed, that several of this class would also be employed in assisting in the house and garden, there did not appear occasion to make further provision for their classification."

Of the *Introduction of Labour* into lunatic asylums Mr. Tuke speaks in high terms.

Coercive Measures.—Mr. Tuke observes that the degree in which personal restraint is required towards the patients, depends very much upon the character of the attendants. Many fits of excitement, or acts of violence, which appear to justify coercion, would be prevented by a little kind consideration and judgment. There are many ways which can hardly be specified, by which an attendant may provoke a patient; nor are the arts by which an irritable excitable mind is soothed, more easy of description. There is no doubt, that the restriction of the *power* of attendants, and the not allowing them to impose personal restraint, without the consent of the Superintendent, has a tendency to lead them to cultivate the arts of prevention; and it may now, he believes, be said to be established, that, under fair management, the number of patients subjected to any kind of mechanical restraint, either by day or night, will rarely exceed *five out of a hundred*, and sometimes no one out of this number will be found to require it.

But Mr. Tuke would appear to be far from inclined to dispense with coercion altogether. His observations on this head merit considerable attention.

> "Certainly," he says, "there are cases in which the patient himself solicits it —where the reason struggles with the impetuous delusion, and finds even in a degree of restraint, which upon a man not insane would be no prevention to mischief, a help to self-controul, a check upon the specific mode of action to which the malign influence impels him. Such cases are not very common, neither are they very rare. I have witnessed them, in connexion with a strong disposition to strike others, as well as with an occasional rushing impulse to a particular means of self-injury. There are also cases in which no struggle of the reason is perceived, marked by a determined disposition to violent and dangerous action, or a strong active suicidal tendency, in which I apprehend some restraint upon the free action of the body must be imposed, either by the *passive* resistance of mechanical applications, or by the active coercion of human force. It may be said, that these violent paroxysms are seldom of long continuance: but they are sometimes of sufficient duration to weary the patience, exhaust the mental and even animal resources, and excite the feelings of fear, resentment, or disgust in the mind of the attendant. If the patient is not to be restrained by a strap, are there no other vulgar appliances within the attendant's reach by which he may *overawe* the unhappy subject of his care? I fear and believe there are; and that in the struggles which cannot fail occasionally to take place, fear may be excited, sufferings may be inflicted, far more distressing than those occasioned by the right application of mechanical restraint, with this additional disadvantage, that they are less open to public notice. Nothing is more to be deprecated in the management of the insane, than protracted struggles between them and their care-takers. In our large institutions, the attendants must be left to a very great extent, to carry out the directions of the superintendent in their own way and spirit, and this, our knowledge of attendants as a class, hardly justifies us in expecting, will even *generally* be the best. This liability to abuse and perversion, even under enlightened management deserves consideration, but if the system has to be carried out by a reluctant or inefficient officer, or is left mainly to the ordinary attendants, there can hardly be a doubt of its inexpediency. The law of brute force, by which men so constantly tend to accomplish their ends, acts

through an almost infinite variety of means, and neither chains nor straps are absolutely essential to its most cruel application." xxxiv.

There are some very good remarks on the *construction of hospitals* for the insane, which we must pass over. Mr. Tuke makes some observations on the *statistics of insanity.* He reasonably doubts if much dependence can yet be placed on calculations connected with it. Now as to the *prevalence of insanity.* Setting aside many apocryphal calculations, we arrive at one which promises most accuracy.

In the year 1836, in pursuance of an address to the Crown, returns were made by the overseers of the various parishes in England and Wales, of the *pauper* lunatics and idiots within their respective districts; and from these returns it appeared that there were 13,667 of these afflicted persons chargeable to their parishes;—being a proportion of very nearly one in each thousand of the whole population of 13,897,187, as returned in 1831. Mr. Tuke apprehends that we may consider the lunatics and idiots, reported to be chargable to their respective parishes, as being drawn from nearly, if not quite, one-half of our whole population. If this be a correct estimate. and we may consider the higher and middle classes of society as equally liable to mental diseases with the lower, we arrive at the conclusion that insanity prevails in England and Wales in the proportion of at least one in every five hundred of its inhabitants.

The result of the inquiry in Norway, is a proportion of oneinsane person to every five hundred of the population. If, as Mr. T. apprehends is the case, the provision for the insane has been extremely deficient in that country, and if consequently the disease has not claimed that attention which more extensive provision for it would induce; there cannot be a doubt, that as the provision increases, so will the standard of sanity advance, and the number of cases which are classed under the head of insanity, be increased.

In the Rhenish provinces, under the Prussian Government, an attempt has been made to estimate the number of lunatics, and the result has been a proportion of 1 in every 1000 of the population; but Dr. Jacobi, whose establishment as Siegburg is appropriated to the use of these provinces, is of opinion that the returns are very defective, and that the proportion may be estimated at least at 1 in 600.

In France no general census has been attempted. Dr. Esquirol, in 1824, estimated the proportion of the insane to the population in France, at 1 in 1750: but he has subsequently enlarged his conjectural estimate to 1 in 1000.

In Italy, in 1833, Dr. Esquirol estimated the proportion at 1 in 3,785 of the population: but the statistics of Italy, in regard to insanity, as well as the provisions for its treatment, are much more imperfect than those of France.

Mortality of Lunatics.—Mr. Tuke thinks that the *diet* of lunatics has a great deal to do with the comparative mortality of various institutions "Our old sagacious superintendent at the Retreat, George Jepson, had not been long in his office before he came to the conclusion that the insane placed under his care required a liberal diet; and I cannot doubt, that the acting upon this opinion has been one cause of the very small mortality in this institution, as compared with that of most others. The York Asylum many years ago, adopted a similar course,and I know it is the opinion of my friend, Dr. Wake, the physician to the institution, that the improvement of the diet has tended materially to the reduction of the proportion of deaths. The annual average mortality, during the 44 years of the Retreat experience, has been 4.70 per cent. upon the numbers resident. At the asylum during the last 25 years the proportion has been 7.35, during the previous 37 years of its existence the proportion was 11 per cent. In the large asylum at Hanwell, the average mortality has been 11.69, that of the West Riding of Yorkshire, 16.16, and that of Lancaster, 18.01. The mortality of *the paupers* in the private asylums at and near London, is stated at 20.68 per cent. upon the numbers resident." Mr. Tuke again and again insists on the necessity for an uniform system of reporting at hospitals for the insane. The subject, he says, would not be unworthy of a special consultation amongst the professional men who are devoted to this department of the medical art; and, if once a uniform plan of arranging the facts and experience of our establishments were laid down, there is little doubt that it would be generally adopted by them; and approximation, at least, to a fair comparison of their respective results would then be obtained; and, if tabular statements were accompanied by a fair representation of any circumstances which distinguish the several institutions, we should hardly fail in time to arrive at most important and valuable deductions.

This closes the introductory remarks of Mr. Tuke. The work itself will be found to contain a mass of information as to the architectural arrangements, and the whole economy of madhouses. We fear it would be stepping out of our province, to follow Dr. Jacobi through his carefully composed details. They will amply repay the perusal of all who are interested in the matter.

PRACTICAL OBSERVATIONS ON INJURIES OF THE HEAD. By *William Sharp*, F. R. S. Senior Surgeon to the Bradford Infirmary, &c 8vo. London: John Churchill, 1841.

MR. SHARP treats the inexhaustible subject of injuries of the Head in the following order:

- Concussion of the Brain;
    - Its Causes,
    - Its Nature,
    - Its Symptoms, and
    - The Treatment.
- Compression of the Brain;
    - From Extravasation,

From Fracture and Depression,
From Suppuration.
The Operation of Trepanning.

Laceration of the Membranes, and
Wounds of the Brain.

CONCUSSION.

The causes and the nature of concussion first occupy him. He remarks how very slight degrees of violence will, in some instances, give rise to it. He cites two cases, one from Hippocrates, the other his own.

Case 1.—A young female, aged twenty, was playing with another female, a friend of hers, who struck her with the open hand on the forehead; she felt giddy and soon after became feverish, and complained of headache; on the seventh day, a large quantity of matter was discharged from the right ear, which gave temporary relief; the fever, however, returned, she became comatose, lost her speech, the right side of the face was contracted, she breathed with difficulty, convulsions succeeded, and death took place on the ninth day.

Case 2.—A boy, the son of a neighbour, about five years old, fell down a few steps, he was stunned for a short time, but soon seemed well, and no further notice was taken of it; several months after, he began to complain of head-ache, he became feverish, and notwithstanding the employment of very active depletive measures, squinting, dilated pupils, and excessively violent convulsions came on, the last fit of which continued three quarters of an hour, and ceased only with life. On examination, a "ramollissement" or softening of the central portions of the brain was found to have taken place to a considerable extent.

Mr. Sharp complains that the descriptions of concussion are too much mixed up with those of other lesions of the brain. He proposes that the term *concussion* or *commotion* of the brain should be restricted to cases of the first description, namely, an affection "of one or many functions, without perceptible change of structure in the cerebral fibre," or other morbid appearance within the cranium; or in the words of Benjamin Bell, "such a derangement of the brain as obstructs its natural and usual exertions; but which does not leave such marks of its existence behind it, as to render it capable of having its real nature ascertained by dissection."

The difficulty, we apprehend, is this, that there are so many mixed cases —cases in which the effects and symptoms of concussion are combined with those of extravasation, &c.

For the purpose of accurately discriminating the symptoms of concussion, Mr. Sharp arranges the cases into three classes.

The first class:—those cases in which alarming symptoms arise immediately on the injury being received, which either soon terminate in death, or speedily pass off altogether.

The second class:—cases of concussion in which a few days will elapse after the accident, and then violent and dangerous symptoms suddenly come on.

The third class:—cases in which after an accident has occurred, only slight complaints are made for a long time, and which are generally disregarded, until it is discovered that inflammation has been going on and is probably ending in a fatal effusion of serum, in softening of the brain, or in suppuration.

Mr. Sharp gives instances of the first class of cases, which are pretty common. The *second class* have not, perhaps, received so much attention from authors as they merit. Mr. Sharp relates a case, which we shall abridge a little.

1839, August 13th. Tuesday.—Mr. ——, a very stout person, was going to —— in a gig. The horse took fright and ran away; the reins broke; and Mr. —— threw himself out of the gig behind; he fell upon his left arm, and left side and hip, which were bruised; his head had not touched the ground, nor had it been struck, or knocked against anything. On Mr. S's. seeing him shortly after the accident, he complained very little, and not at all of his head; and having ordered another carriage and horse, he proceeded to ——, where he dined heartily. He afterwards got bled to nearly two pounds, and until he fainted. He returned home in the evening, (a distance of eight miles,) appearing scarcely at all indisposed.

He attended his counting-house on Wednesday, and, on Thursday, complained of violent pain and throbbing in the head, for the first time. He was bled again to a pound and a half; purged; and cold lotions applied to the head; he remained in bed, and took no solid food. On Friday, the pain in the head continued; with fits of dizziness and suffocating flatulence; again bled to a pound and a half, and sixteen leeches applied to the temples, and digitalis given. Relieved by the bleeding.

On Saturday morning, he was better, but in the evening the pain had returned, with twitching of the right arm, and rolling of the head: bled to eight ounces, and again relieved. Small doses of compound tincture of camphor, and tincture of colchicum, were given during the night. He improved until Tuesday, when he was extremely giddy and almost suffocated with flatulence. Mr. S. gave him draughts with spiritus ammoniæ aromaticus, and infusion of cascarilla during the day, and applied croton oil to the nape of the neck. From this time he progressively recovered.

Speaking of the third class of the cases, (too frequently, by the way, neglected, mistaken, or mismanaged) Mr. Sharp offers a few practical remarks connected with the subject of inflammation of the brain.

The first is, that if a patient, after an accident, complain of head-ache, throbbing in the head, giddiness, sickness, or any other symptom which may indicate an affection of the head, the most solicitous attention ought to be given to it by the medical attendant, and every proper measure adopted, to prevent or to remedy all inflammatory action.

The second observation is, that in inflammation of the membranes, particularly of the tunica arachnoides, the *pulse* is met with in two very opposite states; in the one it is very frequent, small, and wiry, as in inflammation of a serous membrane in the abdomen; in the other it is remarkably slow, irregular, and depressed.

The third observation is that much more *delirium,* and particularly delirium of the violent kind, attends inflammation of the membranes, than of the substance of the brain.

> "My fourth and last observation on this subject is, that when *convulsions* succeed the first stage of inflammation, the case, so far as I at present recollect, is always fatal, whether more blood be abstracted or not. These convulsions, to a careful observer, differ in appearance from those which arise from loss of blood or other cause of exhaustion. It is difficult to convey an idea of the difference in words, but I may mention one circumstance, the *eyes* are affected *first*, and more violently in the fit following inflammation, than when the cause is exhaustion." 40.

Mr. Sharp admits the difficulty of specifically stating the diagnostic symptoms of concussion and compression. He offers the following as the best account that he knows of.

In concussion the *symptoms* usually make their appearance immediately after the accident, though it not unfrequently happens that a considerable interval passes over before they come on; in compression there is generally a short interval between the accident and the symptoms.

In concussion, the symptoms if not so overpowering as soon to terminate in death, either pass away, the first signs of depression being followed by corresponding excitement, and this by complete recovery; or we may have the three stages pointed out by Mr. Abernethy, first of insensibility, second of restored animation, and third of inflammatory action. In compression, the symptoms if not relieved by active depletion, and other means, become aggravated, and death ensues either very soon, or after inflammation and frequently also suppuration have supervened.

In concussion, the *pulse* is generally not so slow, labouring, and intermittent as in compression.

In concussion, *bleeding* sinks the pulse and the patient; in compression the pulse rises and relief is afforded.

In concussion, there is commonly more *insensibility*, followed by *delirium*, than in compression.

In concussion, perhaps *vomiting* is more frequent than in compression, though it often occurs in the latter.

In concussion, there is less frequently *coma*, *convulsions*, and *paralysis*, than in compression.

The state of the *pupil* is an uncertain sign: it is often dilated and insensible to light, and often contracted in both concussion and compression.

After some judicious observations on the treatment of concussion, Mr. Sharp winds up with a few remarks on the *prognosis*. They are these.

Slight fractures are more serious than slight cases of concussion, for the obvious reason that they are an indication of greater violence having been done to the head; but on the contrary, the more severe forms of concussion are more alarming and dangerous than extensive fractures; the brain having generally suffered more injury in the former cases than in the latter.

An attentive practitioner will always remember, that slight symptoms coming on some days or weeks after the accident, bring with them a far more serious indication of mischief, than similar symptoms occurring immediately on the injury being inflicted; and also, that a patient who has suffered from concussion of the brain, in any of its forms, must not be considered really safe, until he has, for some time, remained perfectly well. Sir A. Cooper stated in his lectures, that "no patient is safe from the effects of concussion till fourteen days after the accident," that is, I suppose, when no symptoms, or only very slight ones have arisen; but I should feel it to be my duty to watch a patient for a much longer period than this, before I could dismiss my feelings of anxiety about him.

The worst cases of concussion;—frightful fractures with depression;—laceration of the membranes and wounds of the brain itself;—and extensive extravasation in the substance or at the base of the brain, will probably, in all ages, baffle the most skilful treatment. But a good acquaintance with surgery in its present state, with sufficient judgment, attention, and activity, will generally enable us to preserve life after accidents which fall short of these severe extremes.

COMPRESSION.

The consideration of the symptoms offers nothing to detain us. We shall only pause to notice a case. It is brought forward as an instance of what occasionally happens—the lapse of an interval of some duration between the infliction of an injury and the appearance of symptoms of compression.

Case.—"Richard Garside, a stout healthy man, while driving his cart late at night, was attacked by two highwaymen, who kicked him severely on the head and face. He had a fracture of the upper jaw, several bruises on the head, and a wound over the left parietal bone, the bone itself being also slightly fissured. I saw him in the morning in consultation with two other medical men; he complained of nothing but the bruises about his face. The wounds were dressed, and in addition, he was freely bled. The next day he was so well that my proposal to repeat the bleeding was over-ruled. On the third day he complained of pain in the head, and was feverish; he was then bled; and again on the fourth day. On the sixth day he was decidedly suffering from compression, and the trephine was applied on the injured part of the parietal bone:—a coagulum of blood was found, but it was under the dura mater. He died on the eighth day." 80.

Compression of the Brain from Depressed Bone forms a separate section. Most of the remarks are characterised by good sense, rather than by novelty, indeed it would be difficult to attain and unreasonable to expect such.

We may mention that in cases of fracture with depression and symptoms of compression, with wound or without it, Mr. Sharp strongly recommends the *repeated abstraction of blood, in moderate quantities, at short intervals*, in order, if possible, *to prevent inflammation;* in preference to waiting until that mischief has actually commenced.

"The next most important question which presents itself, in these cases, is the necessity of trepanning, or at least for some operation to elevate the depressed bone. The experience I have had, leads me to advise that the depressed bone be elevated, whenever it is in a situation to be got at, even though it be necessary to make a wound to do so, *if serious symptoms of compression are actually present.* The conversion of a simple fracture into a compound one, and the removal of any portion of the cranium, are serious proceedings; and the necessity must be apparent which will justify their adoption;—that necessity appears to me to be the symptoms of compression being present. If, indeed, *these are not urgent*, blood letting, the application of cold, &c. should be first tried: and sometimes they will subside, and the patient will recover, without further interference. But should this not be the case, should the symptoms be urgent, or though less alarming, continue after venesection, then the surgeon is called upon to attempt something more to rescue his patient from otherwise inevitable death." 105.

Suppuration within the Cranium is described, of course. We quote the following, a far from unique case.

Case.—1838. Some time this year, a soldier in the army in Spain, received a sabre wound, on the left side of the head, above the ear, which healed. In July, 1839, he was admitted into the Bradford Infirmary, for a copious purulent discharge from the left ear; a large abscess had also formed behind the ear, which was opened. He became delirious, or rather insane; and was so evidently suffering from compression of the brain, that an attempt was made to relieve him by applying the trephine above the ear. The bone was dead, and the dura mater detached from it, but no matter was found underneath it, though the dura mater was punctured with a couching needle. The man was, however, materially relieved for several days; he afterwards became worse and died. On examination a very large quantity, between three and four ounces, of matter was found in the brain, and a perforation through the petrous portion of the temporal bone, into the meatus externus; the matter had passed through this opening, and escaped from the ear. The opening made by the trephine, was just on the verge of the abscess, but did not open it.

Mr. Sharp presents a concise yet a complete account of the history of trephining. The see-saw of opinions on the subject is remarkable, and not altogether uninstructive. His summary of the points at present agreed on and disputed lays the whole case before the reader. It is agreed on:—

Not to trepan in cases of concussion;

Nor in cases of compression of the brain, unless there is very good reason to expect extravasated blood immediately under the bone; fracture of the internal table; or pus, indicated by the puffy tumour, or detached pericranium.

Nor in children where there is depression only, without fracture.

Nor in simple fissures or fractures with slight depression, but without alarming symptoms;

Nor even in compound fractures without depression or symptoms;

And on the other hand;—

To perforate the cranium when extravasated blood or matter may be fairly expected to be found underneath; and to raise the depressed bone, in all cases of depression, whether simple or compound, where there are serious symptoms of pressure.

But it still remains an unsettled point whether,

A simple fracture with extensive or deep depression, but without symptoms of pressure, and,

A compound fracture with depression, but also without symptoms, should be trepanned or not.

For such a proceeding we have Sir A. Cooper, and Sir B. Brodie: *against* it, Dupuytren and Lawrence;—and the arguments used on each side of the question, by these distinguished and experienced men, are of great weight.

> "I do not flatter myself," adds Mr. Sharp, "that I can decide the question, as to the general rule; though I have not lately had any difficulty in making up my mind, in any individual case. I will only observe, that my decided preference has gradually become more and more *for non-interference;* that *by strict attention to the means for preventing inflammation*, I have great confidence in such cases doing well, with the fracture left undisturbed: and that therefore, unless I found that the depressed bone could be very easily raised, or the detached fragment removed without increasing the damage done to the dura mater, *I should not venture to do it*." 139.

Wounds of the Brain.

Mr. Sharp's practice differs from that of the majority of surgeons of the present day. After remarking that Sir B. Brodie in his admirable paper in the Medico-Chirurgical Transactions, has analysed a collection of thirty-eight cases, from various authors, in order to show that "in the very great majority of cases of wounded brain, there seems to be more wisdom in resorting to negative, than to active local treatment." In several of these cases, foreign bodies, or splinters of bone, were allowed to remain, without being extracted, and the patients recovered.—Mr. Sharp adds,

> "In the cases which have fallen under my care, I have hitherto pursued a different course, and the majority of them have recovered; I regret that I have not accurate notes of them all, so that I might be able to say precisely in what proportion.
>
> The question of removing fragments of bone or of foreign bodies can only be entertained, when those fragments are so loose as to be extracted without doing further injury to the brain; the result of my own practice is in favour of their being removed; while the result of my reading is, on the contrary, in favour of their being left. There can be no doubt of the propriety of leaving unmolested all cases where the depressed bone, or the foreign body, a bullet for example, is so circumstanced that, to extract it, the brain must suffer still further laceration.
>
> It will perhaps appear, prima facie, that I have pursued an opposite course of practice in these cases to that recommended in the preceding chapter; but when it is considered how different the cases are;—that in the former, the brain is only *pressed upon*, and that without its giving evidence of suffering; while in the latter it has a sharp jagged edge of bone continuously *puncturing* it;—it will not then appear surprising if a different mode of treatment be thought necessary." 154.

Mr. Sharp gives a caution in reference to these, and all other fractures of the skull, where the patient recovers with loss of some portion of the bony covering of the brain. It is highly necessary *that the patient should be provided with a metallic covering for the part which has lost its bony protection*, before the surgeon takes leave of him, and before he is allowed to go much out of doors, or to engage in any active occupation or amusement. The necessity for this precaution is illustrated by a case.

Case.—1828. "A boy about eight years old, received a severe blow on the left parietal bone by the fall of a coal, while employed at the bottom of a pit.

I found a large wound, a comminuted fracture of the bone, and a laceration of the dura mater; he was in a state of extreme exhaustion. and in fact, it seemed a hopeless case. I removed the splintered bone, and lightly dressed the wound, and to my great surprise and delight, the boy recovered. He got out of doors, before I was aware of it, and boy-like, engaged in full play, with some of his companions; he was struck by a stone, on the very spot where the bone had been removed, and he died in a few days.

I mention this painful circumstance, believing that it will produce as strong an impression on the minds of other surgeons, as it has upon my own; and in the hope that we may be able so to put our patients on their guard, that a similar catastrophe may, in future, be prevented. A small plate of tin, or other metal, may be made to fit over the part without difficulty. I am at present attending a case of this kind, in which, in consequence of a blow from a stone, received nearly three years ago, several large portions of the parietal and temporal bones have exfoliated, and have been extracted, by which the dura mater is exposed to a great extent; it is now protected by a large metallic plate which is constantly worn." 156.

In Mr. Sharp's cases of wounded brain, the splintered and depressed bones have been carefully removed, in the manner previously described; the integuments replaced as much as possible; the circulation repressed by the repeated abstraction of blood; inflammation checked by every possible means; and by patient and persevering attention for some weeks, a cure has been affected.

We believe we have noticed all the more prominent parts of the work. Mr. Sharp apologises for not only its execution but its production. Mr. Sharp however, has enjoyed many opportunities for observation, and does right to record his experience. Every man's is valuable when honestly reported, and it would be well if more of our medical books were of this unpretending character.

A Letter to Sir B. Brodie, Bart. on the Application of the Collegiate System to the Medical School of the Metropolis. By the Rev. *J. H. North*, M. A. Chaplain to St. George's Hospital.

This Letter does honor to the head and heart of its writer, and is worthy of the gentleman to whom it is addressed. There breathes not a man more desirous to ameliorate the condition of medical students, nor more anxious to arise the character of the profession than Sir Benjamin Brodie. His liberality is not confined to words or opinions, but expands into acts of the most generous character. The Pamphlet before us is rightly dedicated to him.

Mr. North displays, in a most effective manner, the comfortless condition of a large proportion of our students. What can be more true than this?

"There is no officer connected with the hospital at which the pupil is entered, whose province it is to guide him in the selection of his apartments; there are no limits within which his choice is confined; there is no warrant for the respectability of the persons at whose house he may take up his abode; there is no provision made for the regularity of his meals, nor for any of those arrangements upon which his comfort depends. He has to settle and arrange for himself all those household affairs, which present no slight difficulty to those who are far older and more experienced than himself. He is alone; and solitude in London is of all things the most desolate. In these circumstances he applies for guidance to those who, not unfrequently, are least able to render him effectual aid; he is at least as likely to fall into bad hands as into good; it may be, a notice stuck up in the hall of the hospital catches his eye, and he takes refuge from his perplexity in the first lodging-house that presents itself; and in this situation, unfriendly to his moral character, unfavorable to study, not admitting any superintendance, and destitute of all domestic comfort, he passes the first months, perhaps, which in the whole of his life have not been spent in the society of his family or friends."

Contrast the neophyte in medicine with the Freshman at College. *There* every arrangement has a direct reference to his advantage. Mr. North proposes to assimilate, as far as possible, the material condition of the medical students and the resident at an University—to provide apartments within the walls of the school—to license lodging-houses for those who prefer them—to establish a common hall and common dinner—and to exercise, as far as possible, a gentle surveillance on the morale as well as the physique of students.

The *enforcement* of regularity, and the adequate adjustment of restraint, are hinted at by contrast.

> "I will again recur to the situation of under-graduates in support of this part of my argument. To speak briefly, the means insisted upon to secure regularity of conduct are these; daily attendance at chapel, again at lectures, a third time at hall; and lastly, the system of gates, by which a return of every under-graduate who is out after ten o'clock at night is daily made to the tutor or dean. The punishments for offences against these laws consist of impositions and deprivation of liberty for periods varying in length, and eventually loss of terms and consequent postponement of the degree. I am not aware, that the dicipline of our universities has ever been considered too severe; nor do the tutors and deans find that they have too much power for the purpose of maintaining due attention to the necessary points of correct behaviour. Yet of all these restraints—these wholesome and necessary restraints—the life of a medical student is wholly devoid. There is, indeed, some attendance required on lectures, some in the wards of the hospital; but, with this exception, the pupil is entirely his own master; that is, in all matters relating to his hours, his expenses, his companions, his religious and moral habits, he is utterly without a check; and in all the heat and inexperience of youth, he finds all London before him for the uncontrolled gratification of his favourite desires, whatever they may chance to be."

That something *should* be done is manifest—that something *will* be done is not unlikely—and that the *sooner* it is done the better for the profession and the public is, we conceive, undeniable. There will be difficulties, no doubt, in the way. What great and comprehensive scheme of good is free from them? Capital is to be obtained, license to be bartered for restraint, repugnance to Collegiate discipline to be conquered without the aid of prescriptive Collegiate dignity and power—a new machinery to be organised and put in motion. All difficulties, we say, but none insuperable—difficulties, that will appear great or trivial as we regard them with the eye of a mere speculator, or of one zealous for men's improvement. For our own part, we believe that those who have originated this excellent plan, and those who will carry it out, deserve the best thanks of the profession, and the good name that crowns benevolent purposes and deeds.

I.—MORAL PHILOSOPHY; OR THE DUTIES OF MAN CONSIDERED IN HIS INDIVIDUAL, DOMESTIC, AND SOCIAL RELATIONS. By *George Combe.* 8vo. Edinburgh and London, 1840, p. xvi. 440.

II.—NOTES ON THE UNITED STATES OF NORTH AMERICA, DURING A PHRENOLOGICAL VISIT, IN 1838-9-40. By *George Combe.* Three volumes, 8vo. Edinburgh and London, 1841, p. xxiv., 1260. With a Map and Illustrative Diagrams.

[Continued from No. lxix., p. 80.]

II. THE NOTES ON THE AMERICANS.

THESE NOTES are exceedingly multifarious; and, in that they are distinguished by much faithfulness of observation as well as an exemplary impartiality of judgment, they cannot fail of proving unusually attractive to many persons, although induced to examine the author's views with very different dispositions and purposes. Here, in Mr. Combe's entertaining and instructive pages, the agriculturist and commercialist, the legislator and moralist, the philosopher and artisan, the civilian and religionist, the physiologist and physician, the phrenologist and philanthropist, will all find abundance and diversity of congenial topics whereon to exercise their practical and contemplative powers. We prefer the subsequent gleanings, as not unsuited to the pages of this journal: let us begin, then, with "Notes" on Insanity, Lunatic Asylums, and Medical Jurisprudence.

Having read, in the American Jurist, No. xxxviii, a very able review of Dr. Ray's Treatise on the Medical Jurisprudence of Insanity,* Mr. Combe there found it recommended to public attention on account of the talent which it displays, also because it treats of insanity, on phrenological principles, and because it embodies the views of the most recent French, British, and American authorities on this exceedingly important subject. He afterwards consulted the work itself; and, as he has rightly judged, it contains much excellent matter. In an able essay prefixed to the volume, he says, the contradictions, errors, and inhumanity of the doctrines on insanity delivered by the lawyers of England, up to a very recent date, are clearly stated and completely exposed. Nor does Scotland with her groups of sages in the moral and metaphysical sciences, escape Dr. Ray's enlightened and searching scrutiny. He observes at p. 50, the doctrine of *moral* insanity has been as yet unfavourably received by judicial authorities, not certainly for want of sufficient facts to support it, probably from that common tendency of the mind to resist innovations upon old and generally received views. Since, a quarter of a century ago, one of the highest law-officers in Britain pronounced the manifestation of "*systematic correctness*" of an action a proof of sanity sufficient to render all other evidence unnecessary, it is not surprising that the idea of *moral* insanity has been considered by the legal profession as a fancy sprung from the teeming brains of medical theorists. Thus, in the fulness of this spirit, Mr. Chitty declares that, "unless a jury should be satisfied that the *mental faculties* have been *perverted*, or at least the faculties of *reason and judgment*, it is believed that the party subject to such a *moral* insanity, as it is termed, would not be protected from criminal punishment;"* and, Dr. R. continues, in the trial of Howison for the murder of the widow Geddes in Scotland, *moral* insanity, which was pleaded in his defence, was declared by the court to be a groundless theory. Such opinions, from quarters where a modest teachableness would have been more becoming than an arrogant contempt for the results of other men's inquiries and experience, involuntarily suggest to the mind a comparison of their authors with the saintly persecutors of Galileo, when they resolved, by solemn statutes, that Nature always had operated, and always should operate, in accordance with their views of propriety and truth. Many, very many facts might be adduced to corroborate these incontrovertible observations of Dr. Ray's, and to evince the excessive dullness and dogmatism generally displayed in the jurisprudential proceedings regarding insanity, throughout this country. In fact, there is no consistent or intelligible definition of insanity in the forensic rules and authorities of Britain; and, therefore, in consequence of this legal anarchy, the judgment of cases is too often a judgment of despotism, a mere opinion emanating from a mind bewildered by prejudice and enchained with the fetters of ignorance and bigotry.

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* An Analytical Account of Dr. Ray's Treatise was presented to our readers, in the No. of this Journal for April, 1839, p. 431-443.

Adverting to the indecent haste with which the trial, sentence, and execution of Bellingham, for shooting Mr. Percival, were hurried over, Dr. Ray remarks, that few will now read the report of this trial without being forced to the conclusion, that Bellingham—was really mad; or, at the least, as Mr. C. adds, that the case should have been deliberately investigated. Again, with reference to Howison's case, the doctor adds, that application was made to the secretary of state, by the law-agent of the accused, for time to obtain further evidence of his insanity, but without success, although several post-judicial facts were added, and left no doubt that the unhappy convict was not a fit subject for moral punishment. From actual knowledge, Mr. C confirms these statements, and produces the additional information—that, in the night preceding Howison's execution, he made a confession of a number of murders which he avowed himself to have committed, and of which he specified the times, places, and circumstances, evidently believing them to be real; but which, on inquiry, one and all of them turned out to be mere phantoms of his own diseased brain. In this wretched man, the innate propensity to destructiveness appears to have been liable to accessions of inordinate excitement giving rise to destructive monomania; and, while labouring under one of these paroxysms, which misled his own judgment and memory, and prompted him to clothe its suggestions with the attributes of realtty, he was led forth to the gallows and executed. We agree entirely with Mr. Combe in the opinion that, from the evidence adduced at the trial and subsequently obtained, this man Howison undoubtedly committed the homicide during a monomaniacal state of mind, without provocation, and without any motive discernible by a sane understanding.—When will our prominent patriots cease from expending their energies in toiling for the attainment of superficial reforms! Let them rather cultivate the principles and their applications requisite for maturing education and legislation; and, on these being perfected by a just and consummate reformation, that of all other institutions will necessarily follow: and, from that day forth, we shall no longer be harassed with the horrors of contemplating the destruction of maniacs, executed as criminals.

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* Chitty, Medical Jurisprudence, p. 352. As Mr. C. prefers the superannuated terminology of the metaphysicians who convert reason and judgment into mental faculties, he might have recollected that these oracular sages also represent the "*Moral Sense*," as being a mental faculty; and, consequently, he could scarcely have failed to see, if he could not acknowledge, that perversion of this prominent faculty should be held for a *moral* insanity.—*Rev.*

At p. 196 of Mr. Combe's first volume, we meet with "Notes" from a valuable official report on insanity and criminal jurisprudence Chief-Justice Parker delivered a charge to the grand jury for Merrimack county, in 1838, on the subject of insanity; and, in this charge, which was published by request, the phrenological views of this malady were embodied From this report, we learn that, by returns to the legislature of New Hampshire, in 1833, there were 193 cases of insanity in eighty-three towns; while, from one hundred and twenty-seven towns, no report was received. Hence, at a similar ratio for all the towns in the state, the number would be about 500 cases: of those *returned*, 98 were paupers and 95 not so: neither the local nor general population is recorded. From the returns, it is shown that about a half was, or had been, in confinement: some were in cages and cells, some in irons and chains, and some in jails

Further, we observe in the report of a Committee, in 1836, that one hundred and sixty-one towns had furnished returns; that, in one hundred and forty-one of these towns, there were 312 cases of insanity; and that, in the remaining twenty, no case was specified. According to the same document, the period in which insanity existed, was from two weeks to sixty years, and gave an average of 13½ years' duration. Taking the ratio of the population (*which is not stated*) of the towns that made returns as compared with the population of the state, the result would show that they included nearly 450 insane persons; but, says the report, there are obvious reasons why this should be below the actual number. By inquiries recently instituted, we discover the fact—that, in the county of Chester, *U.S.*, for every thousand of the inhabitants about two are insane. Mr. Parker next proceeds to distinguish the various circumstances in which the question of insanity may come before courts of law and juries: such as, claims for the support of lunatics—applications for the appointment of guardians to lunatics—controversies about wills executed by persons alleged to have been insane—disputes about contracts said to have been undertaken by the insane—and discussions concerning the guilt or innocence of persons represented as labouring under insanity at the time of committing an offence. He then gives a description of the disease, in which he recognizes not only *intellectual* insanity, but also morbid affections of the *feelings*. He expressly says that "the *propensities* and *sentiments* may become deranged;" and, among other forms of their diseases, he includes an "irresistible propensity to steal," an "inordinate propensity to lying," a "morbid propensity to incendiarism," and a "morbid propensity to kill." He illustrates his divisions of insanity by quotations from the reports of Dr. Woodward, superintendent of the Worcester (U.S.) Lunatic Hospital, who is an avowed phrenologist, and from Dr. Ray's work on medical jurisprudence. It is gratifying, as Mr. Combe remarks, to see the principles of phrenological science thus brought lucidly and practically to bear on the interests of a state, under the direction of one of its highest authorities.

The reader would observe our allusion to the Worcester Lunatic Hospital and its superintendent: we will here introduce some account of them. Mr. Combe's picture of the one, and his portrait of the other, is exceedingly graphic. This monument of charity erected by the State of Massachusetts, at an expense of eighty-five thousand dollars, is situated on a beautiful eminence eastward of the town. The buildings of the west front, erected in 1831, consist of a centre, 76 feet long, 40 wide, and four stories high, projecting 22 feet forward of the wings. These extend to the north and south 90 feet each on the front, and 100 feet in the rear, and are 36 feet wide, and three stories high. This arrangement was adopted to secure free communication with the central structure, occupied by the superintendent, steward, attendants, and domestics, and to permit the ventilation and lighting of the long halls, or corridors, extending through the wings The apartments for the insane, 8 feet by 10, have each a window, with the upper sash of cast-iron and lower of wood, both glazed; on the exterior of the wooden sash is a false sash of iron, corresponding to it in its appearance and dimensions, but firmly set into the frame of the window, giving the reality of a grating without its gloomy aspect. In 1835, a building 134 feet in length, and 34 feet in width, was attached to the southern extremity of the hospital, of equal height, and extending eastward at right angles with the front; in 1836, another edifice of the same magnitude was erected at the north end. Three sides of a great square are now inclosed by these extensive structures of brick.

This hospital was opened in January, 1833; from the first it has been admirably managed and the system of moral and medical treatment attended with great success. The structure itself combines the improvements which have recently been introduced into hospitals for the insane. It commands a cheerful and even beautiful prospect, from every window occupied by the patients. The ventilation and heating of the rooms are accomplished by warm air introduced into the galleries, and from them into each cell, by means of an oblong opening above the door. The pipes conveying hot air open near the ceilings of the galleries, and some advantages attend this arrangement. If the pipe opens at the floor, the stream of warm air does not diffuse itself over the apartment, as is generally supposed, but ascends in a direct column to the ceiling and is only there broken and dispersed. It descends only after it has filled the upper spaces of the galleries. By introducing it at once at the top, these spaces are filled before much of the heat has been lost, and a warmer air descends, and enters the several rooms by the apertures above the doors. In the wall of each room is an opening about five inches square, into an airchimney, calculated to maintain a constant circulation. These air-chimneys open into a vast garret, directly under the roof of the building, which contains numerous windows for letting off the noxious air into the atmosphere. This arrangement is attended by one considerable advantage. When the air chimneys open directly into the external atmosphere, their action is violently affected by the state of the wind; and, in cold weather, they bring down cold instead of carrying up heated and exhausted air. When they open into the garret, they are altogether protected from the wind; and by opening fewer or a greater number of the garret windows in Winter, effectual security is obtained against the decent of cold air. These chimneys are effectual; and, in the morning, the rooms are pure to the senses, while the garret furnishes abundant evidence that it has received the effluvia of the night. At the end of the galleries, there are two large corner apartments, two sides of which are composed entirely of cast-iron sashes, one for the women with the intersticies glazed; the other for the men without glass. The object of these is to afford air and exercise to the patients in severe weather when they cannot go abroad, or when their state of health renders complete exposure inexpedient. There is abundance of ground attached to the hospital, in which the patients labour, and there is a chapel in which divine worship is performed every Sunday. A neat carriage, drawn by two horses, belongs to the establishment, and is constantly employed in carrying the patients little excursions into the country to amuse them. The purity and order of the apartments are complete.

We wish to make our readers acquainted with Dr. Woodward, the superintendent of this Hospital, by presenting them with Mr. Combe's portraiture of this justly distinguished physician. Physically and mentally, says our experienced limner, Dr. W. is admirably adapted for his situation. He is in the prime of life, and has large limbs, a large abdomen, large lungs, and a large head. His temperature is sanguine nervous-bilious, with a little of the lymphatic. The organs of the propensities are well developed, but those of the moral sentiments and intellect decidedly predominate. This combination produces a powerful and commanding person, charactersized at once by vivacity, energy and softness; and a mind in which intellectual power is chastened by the most kind and cheerful moral dispositions. Mr. C. regards these qualities as of great importance in the superintendent of a lunatic asylum. If that well-spring of spontaneous vivacity which acompanies large lungs and a large brain be wanting, the individual will be more apt to sink under the depressing influence which the diseased minds of his patients will exert over his own, than to excite their faculties to more healthy and agreeable action. If he be deficient in the moral organs of the brain, he will want sympathy, softness of expression, and justness of feeling; while if he be deficient in the reflecting intellectual organs, he will want sagacity to trace effects to their causes, and to descriminate character; or, if the deficiency be in the observing organs, he will lack the power of attention to incidents and details.

Dr. Woodward has published a valuable pamphlet, strongly urging the advantage of instituting "asylums for inebriates." His reasoning may be briefly stated thus: "1. Intemperance is a physical disease. 2. It is curable in the great majority of cases, if not always. 3. The greatest existing difficulty in effecting this end, commonly arises from the extent of the temptation to which the patient is uniformly exposed. 4. The best remedy for this state of things is to confine the individual, with a view to the avoidance of this temptation, and to the adoption of whatever other measures are necessary for this cure—till he is cured—under charge of an institution expressly adapted to the purpose." The subject has attracted considerable attention in the United States; and, as Dr. Woodward's views are unquestionably sound, both physologically and morally, it is to be hoped that his suggestions may be extensively carried into effect.

Our traveller had the good-fortune to accompany Mr. Salisbury, a state inspector, in his official visitation of the hospital at Worcester: and here, while transcribing his "Notes," we would direct attention to his remarks on the house and its internal economy. Being invited to accompany the inspector, Mr. C. entered every cell and apartment; he saw every patient in the institution; and, in his deliberately recorded opinion, nothing could exceed the excellent condition in which it appeared. Only five furious and filthy patients were found among the whole, and they are lodged in a separate building, so distant that their noise cannot annoy the general inmates of the hospital. Each of these persons was in a distinct cell, the walls of which are of brick, and the floors of mica-slate pavement, heated by fire applied below. The light is admitted from the passage. In one of the cells was a musician, who tears everything to pieces, and is excessively dirty. He was seated on the warm stone-floor, clothed in a very strong and thick cotton vestment, which decended to his ancles. His organs of time and tune remained sound amidst the wreck of nearly all his other faculties. While thus seated, he played several tunes on the flute, with correctness and expression. His head is well formed, with the exception of a predominating destructiveness. His temperament is nervous-sanguine, and the organs of imitation and ideality, as well as those of time and tune, are largely developed. Dr. W. gave the patients of the hospital a ball on Christmas Eve. They themselves decorated very tastefully one of the corridors, with boughs of evergreens, and converted it into a handsome ball-room. They looked forward to the entertainment with great interest for many days before Christmas, and it still afforded them a pleasing theme of conversation. It proved very successful, and even this musician performed a part in it. Dr. W. is an enlightened phrenologist, and he assured M. C. that his conviction increases, the more he observes, that the cases are extremely rare in which the whole of the mental organs, are involved in disease; and that this conviction led him to try the experiment whether this indivdual could not be enabled to command himself at the ball. He explained to him the preparations that had been made; asked him if he would like to attend. This wakened up a thousand impressions, received in his best days of health and usefulness, and he professed his desire to assist and to play in his professional capacity. Dr. W. adverted to his address, and said that he must appear in the costume of a gentleman, and must conduct himself with decorum, as the only conditions on which he could be admitted. He engaged to comply with both stipulations. When all things were prepared on the evening of the ball, the keepers entered his cell, dressed him in a decent suit of clothes, and led him to his seat among the musicians, and instantly the band struck up and the dancing commenced. He played in perfect tune and time. One of the keepers was stationed behind him all the evening to prevent accidents, in case of his losing command of himself; but there was no need for his interfering. For three hours, he continued to play and conduct himself with perfect propriety. At the end of two hours, he complained of fatigue, and said that he believed that formerly he used, about this time, to receive a glass of wine. A glass of wine was given to him, he drank it, and played on, till the close of the entertainment. He was then reconducted to his cell, and had hardly entered it, when he recommenced tearing his clothes.

Dr. Conolly, in his instructive Report on the Hanwell Lunatic Asylum for MDCCCXL., observes—that "the principles of changing all the circumstances surrounding a lunatic, is evidently one capable of application in certain cases, and in certain periods of the malady, with singularly felicitous effects." We have always regarded this as a fundamental principle in the management of insanity, and we could instance, within the range of our own observation, the fatal results which have been occasioned by ignorance or wilful defiance of this most essential principle. In the deeply affecting and deceptive forms of transitory monomania which is so prone to arise in delicate and excitable females during pregnancy or convalescence after child-birth, no resource can be more preposterous and pernicious than that of secluding the patient in the bosom of her family, surrounded by rueful relatives, and attended by woe-begone familiars. Such a resource is known to have been adopted; and, from experience, it is also known to be most effectual in depriving the patient of every chance of recovery. In Dr. Woodward's destructive musician, although a confirmed lunatic, we have a remarkable example showing how powerfully a total change of circumstances may affect an insane person even in the most hopeless condition. In this case, the effect was temporary, but it was great while it lasted.

Dr. Woodward informed his visitants that he allows about one-fourth of the inmates of the asylum to go into the village on specific errands unattended, and only one man has escaped; and he did so after being enticed by some acquaintance to drink. Social parties, with music and dancing, are given from time to time, which, with religious worship on Sundays, have an excellent effect on the minds of the patients. The music is supplied entirely by the patients themselves. Mr. C. saw in the hospital a woman, who, in a fit of religious and destructive mania, had attempted to cut off the heads of two of her children. Philoprogenitiveness was deficient, and destructiveness enormously large. A man who is insane in regard to wealth, imagining himself to possess incalculable riches, has the organs of acquisitiveness standing forth in such ample size and well-defined forms, that they attract the eye in looking at him in passing. Ideality is also large, and in his imagination he applies his wealth to gorgeous purposes. There were other striking examples of the concomitance between the peculiar features of monomania and the size of particular organs in the brain; and Dr. W. expressed his surprise how any man, living in charge of an hospital for the insane, and capable of mental analysis and physical observation, reasonably acquainted with phrenology, could avoid conviction of its truth. He also mentioned that he receives many shoemakers as patients. This class is numerous in New England: but he believes that insanity is produced beyond an average extent among them by their breathing vitiated air in their hot, small workshops, without ventilation, and by their unfavourable position when working. Many sailors are admitted into the institution as patients, and their insanity is held to be produced by intemperance and severe hardships at sea. The cures in cases of less duration than twelve months, amount to 85 per cent. on an average of six years

We are furnished by Mr. Combe with a copious account of the "Eastern Penitentiary" in Pennsylvania, and of the effects of solitary confinement on the health and morals of criminals. This Penitentiary is a state-prison, situated on high ground north-west of Philadelphia, and built in the gothic style. It covers about ten acres of ground, and the ranges of cells radiate from a central tower to the high walls which surround the whole. It owes its origin to "the Philadelphia Society for alleviating the miseries of public prisons," who, from 1801 to 1821, addressed several petitions and memorials to the Legislature, praying for the more effectual employment and separation of prisoners, and for proving the efficacy of solitude on the morals of those unhappy objects. When a prisoner arrives at the Penitentiary, he is examined by the warden, and is then taken to the preparing room. Here he is divested of his usual garments, his hair is closely trimmed, and he undergoes the process of ablution. He is then clothed in the uniform of the prison, a hood or cap is drawn over his face, and he is conducted to his cell. The bandage is removed from his eyes, and he is interrogated as to his former life, which, as a matter of course, is seldom accurately related. The consequences of his crime, the object in view in his punishment, and the rules of the prison, are next explained to him. He is then locked up in solitude without employment. After enduring this state of existence for some days, and feeling its discomfort, he supplicates for the means of employment; which are granted to him, not as a punishment, but as a favor. He is also furnished with a Bible, some religious tracts, and occasionally other works calculated to imbue his mind with moral and religious impressions. In every cell there is a pipe supplying pure water, a kind of water-closet, a bed, a chair, and the implements of the convict's labour. The apartment is heated in Winter by pipes filled with hot water, and there is an aperture for ventilation, which is at the command of the convict. Every convict is obliged to keep his cell perfectly clean, and great attention is paid to the cleanliness of his clothing and person. The men receive a towel, a razor, and shaving apparatus. The clothing is comfortable, and adapted to the season. Their food consists, for breakfast, of one pint of coffee or cocoa, made from the cocoa-nut or mush. Dinner, three-quarters of a pound of boiled beef without bone, or half a pound of pork, one pint of soup, and an ample supply of potatoes. Occasionally boiled rice instead of potatoes. Supper, mush (made of the flour of Indian-corn boiled) *ad libitum*, one half-gallon of molasses per month, salt whenever asked for, and vinegar as a favour occasionally. Turnips and cabbage in the form of crout are sometimes distributed. The daily allowance of bread is one pound, made of wheat or rye.

For the sake of comparison, Mr. Combe here introduces, in a foot-note, the allowance of food in the Glasgow Bridewell, which he commends as one of the best-managed prisons in Scotland. This bill of fare is copied from the fifth report of the inspectors of prisons, and we give it as follows: Breakfast, eight ounces of oatmeal made into porridge, with a pint of buttermilk. Dinner, two pints of broth (soup), containing four ounces of barley, and one ounce of bone, with vegetables; also, eight ounces of bread. Supper, five ounces of oatmeal, made into porridge, with half a pint of buttermilk. Cost of the whole, 3¼*d.* including cooking. Our readers connected with the poor-law-unions and union workhouses will be able to appreciate the difference between this "allowance," and that usually doled out to paupers unaccused of criminality.

Returning to Mr. C.'s account of the Penitentiary, we find that each convict, on his reception, receives a number in the books, which is marked over his cell-door, and on his clothes. This is his prison-name, and his proper name is kept concealed. This rule prevents one convict from learning the name of another. The convicts on the ground-floor are allowed to walk one hour a day, in a very small yard which is attached to each cell, and the hours are arranged so that no two contiguous yards are occupied at the same time. The cells on the upper floor do not admit of this exercise being enjoyed, but the inmates of them are equally healthy with those who inhabit the cells below. Divine service is performed on Sundays, by pastors who serve gratuitously. The chaplain takes his station at one end of a corridor, the prisoners approach their doors, open a small wicket in them, and listen. A curtain is let down in the centre of the corridor, to prevent the convicts from seeing each other across it. Religious books are supplied, but there is no library of miscellaneous publications. The punishments inflicted for breach of discipline are deprivation of exercise, diminution of the quantity of food, and confinement in a dark cell. No flogging is allowed, and very little punishment of any kind is required. A board of inspectors appointed by the Legislature, exercises a general superintendence over the prison, and reports annually to the Legislature. Their reports are accompanied by reports also from the warden and physician; the whole forming authentic and interesting records of the numbers and condition of the convicts, and of the effects of the Penitentiary system for each successive year.

From a careful examination of the reports on this Penitentiary for 1832, 1833, 1834, 1835, 1836, 1837, and 1838, Mr. Combe found the inspectors earnestly representing to the Legislature, the want of "the services of an experienced, intelligent, and pious man, who shall be the instructor of the convicts, and visit them frequently in their cells, inculcating day by day the principles of temperance and religion." Whatever help they receive towards mental improvement are derived from the gratuitous services of clergymen. In his reports, the warden specifies deficiency of education as one common cause of crime, and he remarks that the convicts in general do not possess the instruction given even in the free-schools of the state. He also repeats again and again, as the result of all his experience—that, "to communicate any material benefit to those who are brought to the Penitentiary, their sentences should extend *to two years or more.*" This extraordinary neglect of moral and religious instruction inspires our philanthropist with a train of extremely just and justly severe reflections. No single circumstance, he observes, in the history of Pennsylvania, indicates the low state of general information among her people more strongly than the extraordinary fact here brought to light, that, after erecting this Penitentiary at a vast expense, and providing it with all the physical requisites for accomplishing the objects for which it was instituted, the Legislature continues insensible to every entreaty of its legal guardians, urged in the most forcible language for six successive years, to be furnished with adequate means of moral and religious instruction for the prisoners. An enlightened people would as soon have built a palace without a roof, as have instituted a Penitentiary (a house for moral reformation), without a moral and religious instructor! One such teacher is not sufficient. If the intention of improving the minds of the convicts be seriously entertained, labour must be bestowed in the cultivation of their moral and intellectual faculties proportionate to their ignorance and wickedness. If well constituted minds require extensive moral and religious training and instruction to preserve them in the paths of virtue, ill constituted minds need much more. Although we form the highest estimate of the quantity and quality of this instruction furnished to the convicts, by the excellent persons who labour in the Penitentiary gratuitously, or who are rewarded by benevolent societies, the very fact that the legal inspectors proclaim it to be insufficient, leaves the Legislature of Pennsylvania without excuse in denying a further supply. Whenever the philosophy of mind is generally understood, this penury of instruction will appear nearly incomprehensible. The philanthropists of Europe expect the American commonwealths to prove, by a liberal expenditure of public money for *moral* objects, the superiority (of which they so loudly boast) of a government emanating from, and responsible to, the people, over those which depend on the will of an individual or of a high-born aristocracy. A democracy which refuses moral and religious instruction to its convicts, apparently from no consideration except that of saving the expense, is a greater foe to freedom than the most ruthless despot of Europe: such a democracy saps the faith of good men in human virtue; while the tyrant only stifles its outward manifestations, leaving the faith itself to burn the brighter the more he labours to extinguish it.

In his seventh report, the warden observes that "a minute inspection of the character of the unhappy inmates of prisons has developed another interesting fact—that many more of them than was supposed are really irresponsible beings;" and, to the same effect, the inspectors remark, that "there are no doubt *some criminals* who *are incorrigible.*" On such, the effects of the Penitentiary system do not generate vindictive feelings, but they leave the establishment with sentiments of regard rather than resentment towards those who have attempted to alter their vicious habits. Phrenologists have long proclaimed, that the great cause of the incorrigibility of criminals is the excessive predominance of the organs of the animal propensities, over those of the moral and intellectual faculties, and that this class of persons is really composed of moral patients, who should be restrained, but not otherwise punished, during life. As Nature is constant in her operations, this truth will in time force itself on the conviction of society; and after injustice and severity shall have been perpetrated for ages, by the free and the fortunate towards he ill-constituted and unhappy, a better system of treatment will probably e adopted.

The health of the prisoners is indicated, by Mr. C. in a tabular view which gives 3.4 per cent as the average of deaths. In some instances, according to the Reports, the deaths arise from incurable disease affecting the prisoners at their entry, and that the average is greatly augmented by the sickly inefficient condition of the coloured prisoners, who "by self-abuse, become debilitated in mind and body, and diseased, and make up 3-5ths of the whole mortality."

A few convicts labouring under insanity at the time of their condemnation have been sent to the Penitentiary, and the inspectors complain that in one or two instances they have been convicted in the full knowledge of their insanity, with a view to get quit of them as troublesome to the country. This fact is not a little surprising: the next has an important bearing on prison-discipline. In a report read to the Senate on February 14,1837, a committee of the legislature stated, that "no instance of insanity has, as yet, occurred in the Eastern Penitentiary, which has not been traced to causes wholly independent of, and either anterior or posterior to the confinement. Whatever might be the disturbing and stultifying effects of strict seclusion, without labour, without books, without moral instruction, and without daily intercourse with the keepers, certain it is, that with all these circumstances to relieve the distressing ennui, and the supposed maniacal effects of absolute isolation, the inmates of our prisons are in no danger of mental aberration, or alienation of mind, from the cause supposed:" it is "shewn conclusively that the unbroken solitude of the Pennsylvania discipline does not injuriously affect the health of the convicts." Mr. C. visited a number of the male convicts who had been confined for periods ranging from seventeen months to eight years, and their appearance did not indicate either bad health or mental depression. He was introduced also into the cells of several female convicts, some of whom had ornamented the walls with pictures and needle-work, giving to the apartments an appearance of tidiness and comfort that bespoke a healthy condition of mind in the inmates. To him, the food appeared to be too rich and abundant for solitude, and several of the men had applied to be placed on a tea diet, consisting of tea and bread, which is allowed them when asked for. Secret vice abounds among the men, particularly the coloured convicts, who have few mental resources; but one of the white male prisoners had celebrated its pleasures and pains in an ode written with a pencil on the white-washed wall of his cell.

We will now introduce briefly Mr. C.'s own opinion concerning the effects of systematic seclusion in this Penitentiary. He observes that the system of entire solitude, even when combined with labour, and the use of books, and an occasional visit from a religious instructor, leaves the moral faculties still in a passive state, and without the means of vigorous active exertion. According to his view of the laws of physiology, this discipline reduces the tone of the *whole* nervous system to the level which is in harmony with solitude. The passions are weakened and subdued, but so are all the moral and intellectual powers. The susceptibility of the nervous system is increased, because organs become susceptible of impressions, in proportion to their feebleness. A weak eye is pained by a degree of light which is agreeable to a sound one. Hence, it may be quite true, that religious admonitions will be more deeply felt by prisoners living in solitude, than by those enjoying society; just as such instruction, when addressed to a patient recovering from a severe and debilitating illness, makes a more vivid impression than when delivered to the same individual in health; but the appearances of reformation founded on such impressions are deceitful. When the sentence is expired, the convict will return to society, with all his mental powers, animal, moral, and intellectual, increased in *susceptibility*, but *lowered in strength.* The excitements that will then assail him, will have their influence doubled, by operating on an enfeebled system. If he meet old associates and return to drinking and profanity, the animal propensities will be fearfully excited by the force of these stimulants, while his enfeebled moral and intellectual powers will scarcely be capable of offering any resistance. If he be placed amidst virtuous men, his higher faculties will feel acutely, but be still feeble in executing their own resolves. Convicts, after long confinement in solitude, shudder to encounter the turmoil of the world; they become excited as the day of liberation approaches, and feel bewildered when set at liberty. In short, this system is not founded on, nor in harmony with, a sound knowledge of the physiology of the brain, although it appeared to Mr. C. to be well administered.

Solitary confinement, with labour, is inforced at the New Jersey state prison, and the preceding views are strengthened by the report presented to the Board of Inspectors in 1839, by Dr. J. B. Coleman, the physician to this institution. He states that, among the prisoners, there are many who exhibit a child-like simplicity, which shews them to be less acute than when they entered. In all who have been more than a year in prison, some of these effects have been observed. Continue the confinemt for a longer time, and give them no other exercise of the mental faculties than this kind of imprisonment affords, and the most accomplished rogue will lose his capacity for depredating with success upon the community. The same influence that injures the other organs will soften the brain. Withold its proper exercise, and as surely as the bandaged limb loses its power, will the prisoner's faculties be weakened by solitary confinement. Dr. C. concludes his account of the effect of this treatment, in these terms: "While it subdues the evil passions, almost paralyzing them for want of exercise, it leaves the individual, if still a rogue, one who may be easily detected;" in other words, in reducing the energy of the organs of the propensities, it lowers also that of the organs of the moral and intellectual faculties, or causes the convict to approach more or less towards general idiocy. Dr. C. does not inform us whether the brain will not recover its vigour after liberation, and thus leave the offender as great a rogue after the close, as he was at the beginning of his imprisonment.

We have dwelt at greater length on this Penitentiary and its discipline, then was our original intention; but, as we see great importance in the records of principles and system in the experience of intelligent medical officers, so we feel prompted to assist still farther in enabling medical officers at home to appreciate the results of "solitary confinement" under the direction of their transatlantic brethren. With this impression for our inducement, we would beg the reader to accompany us a little longer in attending to Mr. Combe's concluding observations relating to this establishment. At Auburn, there is a system of social labour which, in his opinion, is better than that of Pennsylvania, in so far as it allows of a little more stimulus to the social faculties, and does not weaken the nervous system to so great an extent; but it has no superiority in regard to providing efficient means for invigorating and training the moral and intellectual faculties. The Pennsylvania system preserves the convict from contamination by evil communications with his fellow-prisoners, and prevents his associates from knowing the fact of his being in prison. These are advantages that go so far to compensate the evils of solitude, but do not remove them. In maintaining, as he does, that some men are moral patients who should be restrained, but not otherwise punished, he has often been met by the objection, that this doctrine destroys human responsibility. His answer has been, first, that in urging this view, he desires only to extend the class of idiots and the insane, who are by universal consent absolved from responsibility; and, secondly, that men in general, while they reject as dangerous and untrue the proposition in the abstract, adopt it practically, and are unwittingly guilty of the most flagrant inconsistency and pernicious injustice. Mr. C. has asked these objectors, if they would receive into their families, as domestic servants, or into their employment in stores, convicts who had served out their time in state prisons, supposing them qualified by knowledge for the duties of these stations; and most of them have answered that they would not. On being asked why they would decline, they have generally replied that they had not sufficient confidence in their reformation. There is obviously great inconsistency in such conduct. If they believe that every individual has power to reform himself, and that the prison is wisely framed to effect this reform, it is cruel to assume that the individual in question is not reformed, and to exclude him from social comfort and honour on this assumption. The truth is they *act* on the principle that some criminals are incorrigible, and that this may be one of the number, and therefore decline placing trust in any. Yet they blame him for teaching the same doctrine, and desiring to found on it a better practice.

Mr. Combe had the satisfaction of finding that these views of his are supported by the experience of the inspectors and warden of the "Eastern Penitentiary." They not only express a desire that the incorrigibles should be treated as patients, but strongly urge the necessity of an asylum for discharged convicts, previously to their returning into common society. They remark that the situation and sufferings of discharged convicts, have excited their attention and sympathy. The small sum of money—five dollars—allowed to a convict on his discharge is often expended whilst he is seeking for employment. But when that is gone, and no employment can be had, what hope is there that he will be able to struggle against poverty, and maintain his virtue? This class of men, as well as a large portion of the labouring poor, need advice and assistance to help them along the rugged pathway of life. The unwillingness manifested by most employers to take persons released from prison into their workshops, makes it difficult for convicts to obtain good situations at any period of the year, but during the Winter especially. Out-door work is scarce, and those discharged at this season often find themselves in so very destitute a situation, that we need not be surprised if they should sometimes be tempted to steal rather than starve. These officers believe much benefit would result from the courts either extending or diminishing in a slight degree the confinement, so as to make it terminate in either the Spring, Summer, or Autumn.

While this penitentiary system of treatment is pursued, it is manifestly necessary, in Mr. Combe's judgment, that there should be an asylum for convicts intermediate between the prison and society. Before a criminal can be fitted to re-enter the social circles of his country with a fair prospect of continuing in the paths of virtue, the discipline which he has undergone must have invigorated and enlightened his moral and intellectual powers to such an extent, that he, when liberated, shall be able to restrain his own propensities, amidst the usual temptations presented by the social condition. Now, there is only one way of strengthening faculties, and that is by exercising them; and all the American prisons which he visited are lamentably deficient in arrangements for exercising the moral and intellectual faculties of their inmates. During the hours of labour, no advance can be made, beyond learning a trade. This is a valuable addition to a convict's means of reformation; but it is not all-sufficient. After the hours of labour he is locked up in solitude, and it is very doubtful if he can read, for want of light; but, assuming that he can—reading is a very imperfect means of strengthening the moral powers. They must be exercised, trained, and habituated to action. Mr. C.'s opinion is, that in prisons there should be a teacher of high moral and intellectual power for every eight or ten convicts; that, after the close of labour, these instructors should commence a system of vigorous culture of the superior faculties of the prisoners, excite their moral and religious feelings, and instruct their understandings. In proportion as the prisoners give proofs of moral and intellectual advancement, they should be indulged with the liberty of social converse and action, for a certain time on each week-day, and on Sundays, in presence of the teachers; and in these *conversazionés*, or evening parties, they should be trained to the *use* of their higher powers, and habituated to restrain their propensities. Every indication of over-active propensities should be visited by a restriction of liberty and enjoyment; while these advantages, and also respectful treatment, and moral consideration, should be increased in exact proportion to the advancement of the convicts in morality and understanding. By such means, if by any, the convicts would be prepared to enter society with their higher faculties so trained and invigorated, as to give them a chance of resisting temptation, and continuing in the paths of virtue. In no country, has the idea yet been carried into effect, that in order to produce moral fruits, it is necessary to put into action moral influences, great and powerful in proportion to the *barrenness* of the soil from which they are expected to spring. The convicts, whom he saw in this prison, presented the usual deficiencies in the organs of the moral sentiments in relation to those of the animal propensities which distinguish criminals in general.

We will now place on record some "Notes" of our traveller's, on the brain and skull in the savage and civilised families of mankind. Attended by several medical friends, he visited the Marine Hospital at Chelsea, near Boston, an institution for the temporary relief of sick and disabled seamen. All Mariners, who have paid-hospital money, are admitted into it, except such as have contagious or incurable diseases, or who are insane. Here, Mr. C. had an opportunity of witnessing two necrotomical inspections; and, at his request, Dr. Howe drew up an account of his observations on the skull and brain, in both subjects.

No I. Henry Nye, a native of the Sandwich Islands; at eight years of age, he left his native island in a foreign ship, and passed his life as a sailor; he was a good-looking man, and a favourable specimen of his tribe; and his head presented the form which usually characterizes the Caucasian race; he died in his twenty-fourth year. When denuded of its membranes, his brain weighed exactly three pounds troy.

No. II. Daniel Freeman, a North American Indian: his parents were of the Gay Head tribe; but he lived principally among the whites, and had been on ship-board. He was a well-made man, with an organization superior to that of the generality of his tribe; he died in the hospital, aged twenty nine years. His brain weighed two pounds, twelve and a half ounces.

According to Dr. Howe's notes, "both brains shewed a proportionably large development in the animal region: (Nye's the largest.) The organs of the moral sentiments were clearly the largest in Nye's brain: the anterior lobe was also longest, but they were of equal height. Nye's skull was higher and broader in the coronal region; it resembled more closely the Caucasian skull. The brain presented a corresponding development. Mr. Combe pointed out the greater development of the region of cautiousness in Nye's skull; and, on examining the corresponding convolutions of the brain, they appeared decidedly fuller than those in the brain of Freeman. The skull of Freeman was fuller in the region of veneration than Nye's; and the corresponding convolutions in the brain were also clearly larger. Nye's skull was more protuberant in the region of benevolence than Freeman's, and the corresponding convolutions of the brain were also fuller. The skulls of both were equally developed in the region of the organ of hope, and a corresponding fulness was observable in both, in the convolutions which constitute this organ. In general, the convolutions were rounder and plumper in the brain of Nye than in that of Freeman; but the latter was the firmer and harder of the two." From these and other instances, Mr. C. concludes that the natives of the Sandwich Islands possess a higher development of the moral and intellectual organs, in proportion to those of the animal propensities, than the North American Indians, and they have exhibited corresponding qualities of mind. They are more easily civilized and christianized.

On a former occasion, an "eminent philosophical divine" had drawn Mr. C.'s attention to the simplicity of the cranial sutures in *brutes*, and in the savage compared with the more civilized man: he had also remarked that, on the inspection of one quarter or less of a skull, he could decide whether it were that of a Charib, for instance, or a European; and that the complexity of the sutures in the latter attracts the notice of the most inexperienced eye. This led the party visiting the marine hospital to examine a variety of skulls, with a view to the determination of this point, and Dr. Howe recorded the following notes:—

"I. This was the skull of an Indian of the Gay Head tribe, aged 56. The sutures were but faintly marked by a continuous line; the serrations had disappeared. The sagittal suture had disappeared entirely. II. A Penobscot

Indian's skull presented regular and distinct sutures. The serrations in the coronal suture were short, and not so minute as in the Caucasian crania. The serrations in the sagittal and lambdoidal sutures were distinct, and rather long, but not minute III. A native of Celebes. The coronal suture presented no serrations; the bones seemed merely in juxta-position; and the dividing line was straight and distinct. The sagittal suture presented in the front part only a continuous straight line; in the back part a waving line, but no distinct serrations. The lambdoidal suture presented no regular serrations shooting distinctly across and into each other, but an irregular line. IV. A negro's skull presented a coronal suture with minute and distinct serrations; a sagittal and lambdoidal suture, with distinct and coarse serrations projecting across and far into each other. V. A Sandwich Islander, aged 24. The sutures were hardly discernible; the serrations not at all. VI. The skull of a North American Indian, aged 29, presented very faintly marked sutures with short serrations. The sutures not discernible on the inside of the skull."

These cases support the observation that the sutures are simple in savage skulls. Although we consider this fact in comparative osteology as established, yet would we recommend its farther verification, by frequent autopsy in the hands of those naturalists who may find it practicable.

Our next note will present the somewhat singular feature of a *duad* bearing rather interestingly, and at the same time, on surgery and phrenology. We relate the case, as a little episode, and its consequences. It appears then, that Dr. Bush had informed Mr. Combe of Dr. M'Clellan's having removed two tumors from the head of a young man; one of them being internal to the skull, the other external, at the situation of the organs of firmness and conscientiousness. It was also stated, that a portion of the skull had been removed, to the extent of several square inches; that in this region, the brain was found to have disappeared; that, nevertheless, the patient had sat up in full possession of all his mental faculties, and conversed with the doctors during the operation; and that, particularly, he had manifested great firmness and self-possession Having made this communication, Dr. B. requested Mr. C. to reconcile these facts with phrenology, as the case had attracted much attention, and was extensively spoken of, in Philadelphia, as one strikingly adverse to a fundamental principle of this science. Mr. Combe replied, with his characteristic straight-forwardness, that if such a case had occurred, it was the first sufficiently authenticated one which he had heard of; and that he could offer no opinion on it, without a personal inspection. Accordingly, with equal kindness and candor, Dr. M'Clellan took Mr. C. with him, when he went to dress the wound; observing, on the occasion, that the supposed difficulty in regard to phrenology had ceased to exist. He stated that, at the third dressing, to the astonishment of Dr. Bush and himself, "the cerebral convolutions had risen up; and that, in point of fact, they had never been destroyed, but only displaced by the pressure of the internal tumor." This was about the size and form of the half of a hen's egg cut longitudinally: the external tumor was nearly of the same size. They both arose from the effects of a blow inflicted with a stone, so slight at first as scarcely to be noticed; and their growth had extended over a period of three years. The interior tumor had been formed between the skull and the falx, the longitudinal canal having been carried down un-injured below its surface. Dr. M'Clellan remarked, "that the slow growth of these tumors explained the non-affection of the mental faculties; and that the brain had never been disorganized, but merely pressed downwards, and Nature had accommodated herself to the change." Dr. M'C. also stated, that this case shewed the importance of surgeons knowing accurately the situation of the organs; because, although he now saw that the organs of Firmness were not involved he would at first have certified that they were destroyed, and that the patient manifested the faculty powerfully. He was now satisfied that the organs affected by the tumor were Self-esteem and Love of Approbation, and that he had not had adequate opportunities of judging whether the manifestations of these faculties were affected or not; besides, there was manifest evidence that the convolutions had not been disorganized.

Dr. M'Clellan's patient recovered; and, after his convalescence, he mentioned facts that shewed that his sentiments of Self-esteem and Love of Approbation had not remained unaffected during the progress of the disease. He was a player and ventriloquist, and performed in the western cities. He stated that, before receiving the blow, he was an entire stranger to diffidence. For the first three months after the accident, he felt no change in his mental condition, and was not aware that there was an affection of his head. At the end of that time, the external tumor began to attract his attention, and he felt also visitations of diffidence, which he had never before experienced. He was convinced that his powers of acting were unimpaired, yet he could not give effect to this conviction; for he felt as if he should fail. In the course of time, his self-confidence diminished so much, that he could no longer appear on the stage, yet his intellectual faculties were clear and active. So far, therefore, from this case being unfavourable to phrenology, it proved a striking confirmation of its truth, when all the circumstances had been fully investigated. Mr. Combe records the following honorable testimony to the magnanimity and ingenuousness of his transatlantic acquaintance, in these terms.

> "Dr. M'Clellan is Professor of Surgery in the Jefferson College, Philadelphia, and he subsequently informed me, that before my arrival in that city, he had ridiculed phrenology in his lectures; that he had come to my lectures with the view of obtaining additional materials for refuting it; that he had at first conceived this case to be one strongly adverse to its pretensions, but now saw that it was the reverse; that the result of hearing my whole course, had been, to convince him of the futility of the objections on which he had previously relied, and to dispose him to devote a serious attention to the subject. Before Mr. C. left Philadelphia, the professor made the *amende honorable* to his class; told them that he had rashly condemned the science; that its principles were consistent with the best established facts in physiology, and that it was supported by a greater body of evidence than he had imagined. He wrote a letter to the same effect to Dr. Sewall of Washington, whom he had previously encouraged in his attacks against the science, and strongly counselled him to revise his opinions."

This Dr. Sewall published a book with the mis-title. "*The Errors of Phrenology refuted*;" but the refutations of the poor sciolist were soon triumphantly, though severely, refuted by Dr. Caldwell of Louisville, in his "*Phrenology Vindicated*," where Dr. S.'s falsifications of the phrenological doctrine were shewn to be so flagrant, and his miserable sophistries to be so disreputable as to render him unworthy of credit as an evidence or of regard as a logician. In the "Notes," iii. 41, Mr. Combe exposes one egregious instance of this man's antiphrenological delinquencies, and then resigns him contemptuously to the judgment of posterity.

Mr. C. furnishes us with some insight into the "residences of the poor" in the Pennsylvanian capital. It is distressing to learn, he says, that even in this beautiful city, the houses of the poor too much resemble the residences of the same class in European towns. Dr. Parrish informed him that great numbers of young children die here every season in hot weather from *cholera infantum*, or, as it is commonly called, "the Summer complaint." The poor live in small houses, never intentionally ventilate their rooms, and seem not to know the use of cold water. The doctor would enter one of these dwellings on a summer morning when the thermometer stood at 90°, and find an infant shrivelled and bedewed with a clammy perspiration. It had been gasping all night for breath, and not drawn one mouthful of fresh air, and had, perhaps, never been washed from its birth. Death speedily relieves it. Many of the parents who thus treat their children are Irish. He hired an Irish nurse to suckle one of his own children. She gave her own son to an Irish family to board. When the hot weather came, he thought of her infant, and went to see it. It was in the condition before described. In three hours more it would have been dead. Without a day's delay, he sent the whole Irish family with the child to his farm, and saved it. "I should have felt very uneasy," said he, "if it had died, because my child was thriving under the care of the mother whom nature had given to it, but whom I had taken away for the benefit of my own."

Very many observations, both substantial and declamatory, have lately been published in this country regarding the treatment of insanity, with or without the accessory application of restraint. In one of Mr. Combe's "Notes," we meet with an affecting picture of the way in which the "insane poor" are still treated by our brethren in the West. By information derived from about half the counties of the State of Pennsylvania, a committee of the House of Representatives ascertained and reported that, in a population of nearly 800,000, there are upwards of 1100 insane persons, including congenital idiots and those rendered fatuous by disease; whence it is inferred, that in Pennsylvania at large, there is a total of 2300 insane and idiotic poor. Nearly two-thirds of this number are in the worst circumstances; and probably not less than a thousand of those unfortunates are kept in county poor-houses and prisons, or in families at auction-prices.* Not being subjected to medical or moral treatment, recovery under these circumstances is very rare, from five to eight in a hundred being an extremely favourable estimate. The following extracts from the committee's report shew the hardships to which these unhappy beings are exposed. "In one county of forty persons, more or less deranged, seven are confined in cells, which are nearly if not quite under ground. They may be seen from without through iron bars in the cellar windows.

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* This means, that the poor are boarded out at so much a year to those who will take them at the cheapest rate.

Among them is a German girl, twenty years old, seemingly in perfect health of body, with beautiful teeth and hair, and without any symptoms of malignity, who has been in such a cell five months, and is considered as incurable. This interesting case, under treatment for a few months in a proper insane hospital, would probably result in a complete restoration to reason and liberty. Several other like cases are described, and all these, we are told, are shut up under bolts and bars, neglected and almost forgotten, with no friendly voice to break the silence of their solitude ; and presented, one and all, the same revolting picture of suffering. In one county a man, thirty-five years old, had been confined for years in a miserable shed ; when the bolt was drawn and the door opened, he was lying on the floor among straw, no bed was to be seen though it was cold weather, and we had o plunge through snow which had fallen the day previous to get to his wretched abode. In another county, a woman of thirty-five was confined in like manner till she raved herself to death. While decided testimony is given to the good keeping and treatment of paupers generally, it is added that the poor lunatics are found with the feet chained together, or chained by the body to iron weights, logs of wood, or to the trunks of trees ; or, what is more common, under ground, without ventilation, and breathing an air loaded with intolerable stench."

We are old enough to remember the time when an equal destitution both of humanity and science in the management of insane persons, was displayed very generally throughout the Old World, and there is reason still to fear that they do not experience so much tenderness of treatment, in some instances, as particular cases would justify. Dr. Dunglisson and other medical writers, have laboured zealously to free Pennsylvania from the disgrace of such scenes, and the forementioned committee have reported a bill for the erection of a proper asylum at the expense of the Commonwealth. We heartily wish it every success, in its erection, constitution and applications.

Ventilation, in all that regards its use and effects, belongs particularly to the province of medical investigation. Mr. Combe appears to possess a vivid and rational sense of its necessity, and he recurs no fewer than twenty-four times to the subject, with exhibitions of the evils resulting from its neglect, and of the advantages derivable from its proper and efficient regulation. With an outline of his "Notes" and illustrations of this process, so indispensible to the health of mankind, in all climates and at all temperatures, we shall conclude the present article. Mr. C. was in the habit we perceive, of extending his prelections to an unusual length ; but he adopted this practice under precautions which insured to his hearers the benefits of fresh air and change of posture. We discern, in his practice, a system which might be usefully adopted by professional lecturers and their pupils. He opens one of his "Notes," relating to ventilation, with the remark : a sermon of an hour's duration appears very long, and a lecture of two hours wears a still more formidable and forbidding aspect. Aware of this, he delivered at the end of the first hour a brief address, by way of episode, to the audience, mentioning that phrenology taught us that the mind thinks by means of the brain, just as we walk by means of the legs ; that the brain is liable to become fatigued by too long attention, as the locomotive muscles are by too much walking ; and he therefore proposed to them to take a brief rest. He requested them to stand up in order to vary their position, also to converse freely with each other for the sake of relaxation, the more merrily the better, for cheerfulness circulates the blood; and he called their attention also to the absence of all means of ventilating the hall, remarking that, as we had already breathed the air which it contained for a full hour, it must have lost much of its vital properties, and needed to be renewed. He requested the gentlemen to put on their hats, and the ladies their shawls, to avoid catching cold, and then had the windows widely opened. This proceeding caused some astonishment and alarm at first; for the Americans generally have a dread of cold air, amounting almost to an aërophobia. He assured them that they would suffer no inconvenience, and they submitted to the experiment. The interval allowed was only five minutes, at the end of which he resumed the lecture; but so refreshing were the effects of the brief rest, of the change of position, and, above all, the admission of pure air, that during the second hour the attention was as completely sustained as during the first. The same practice was continued every evening through the whole course, and with the same success. Many individuals expressed their gratification at having discovered such simple means of relieving the tedium of a long discourse; and as his audience continued to increase, after the length of the lectures was generally known, it became evident that the two hours' application, when thus arranged, was not felt as an unbearable affliction.

Many of the schools, at Boston, are deficient in ventilation; and, says Mr. C., the consequence of this are headache, loss of appetite, and irritability, in such of the teachers as do not enjoy exceedingly robust constitutions; and drowsiness in the children, in the latter portion of each meeting, when the air is particularly foul. In the morning, when the children come fresh to school, they look healthy, cheerful, and well dressed; but words form the staple of the instruction, to the too great neglect of objects. Improvement in the things taught, as well as in the mode of teaching, advances slowly, not through want of good attention in the members of the school committees, but from attachment to old customs, and lack of knowledge of better modes than those now existing. The necessity of ventilating common-school houses however has been efficiently recognised at Boston in a new erection of the kind. Mr. C. visited it, and thus describes the arrangements. The ceilings of the rooms are high. In Winter a large supply of air, heated by a brick furnace to a moderate temperature, is introduced, and it is let off by five or six separate flues in different parts of the room, which can be opened and shut at pleasure. In each of the rooms the temperature, regulated by a thermometer, was 67° F., the external air being 35°. The garret which used to be lost, has, at Dr. Howe's suggestion, been floored and plastered, and furnished with swinging ropes; and in bad weather the children play in it during the intervals of teaching. All the seats have backs. The teachers told me, that since they have occupied this school-house, the vivacity and capacity of the scholars have obviously been raised, and their own health and energy increased. Appended to this, he transcribes from a tract intituled "Reasons for establishing a Society for improving the Dwellings of the Labouring Classes in Edinburgh, 1840," the following statement:—"A metal tube, opening from the upper part of the wall of the room, and joining a general tube which terminates in the furnace of some neighbouring factory, is all that is required to ensure a constant supply of fresh air to the inmates of that chamber, though, as often happens, they should be upwards of a dozen in number. A few years ago, a large building in Glasgow, each room of which contained a family, and the tenants of which were in all five hundred, was ventilated in this way, and the result was most satisfactory. Previously to the ventilation, diseases, and particularly typhus fever, had been very fatal to the inmates; five persons had been ill of the latter disease in one room, and in two months, at the end of 1831, fifty-seven had been attacked by it. After the apparatus was applied, four and a half years elapsed, during which there were only three cases of fever, and two of these in a room where the tube had been destroyed. Mr. C. earnestly recommends these facts to the attention of the Americans of all classes; for they are little sensible of the extent to which they injure themselves by living in bad air.

In one of his phrenological lectures, when treating of "Physical Education," Mr. C. embraced the opportunity to inculcate the indispensableness of a healthful atmosphere to the preservation and improvement of our native energies, both physical and mental. Having observed the unwholesome condition of the class-rooms, court-rooms, and other places of public resort in Boston, for want of ventilation, he called the attention of the audience strongly to the dependence of the mental faculties on the condition of the brain for their power of action; to the dependence of the brain, for its vital properties on the condition of the blood; and to the dependence of the blood on the condition of the digestive and respiratory organs; thus pointing out the direct connection between sound digestion, pure air, and mental vigour. He found that even a brief exposition of the structure and functions of the digestive and respiratory organs, and of their connection with the brain, illustrated by large drawings, brought home to the understandings of his audience the importance of digestion and ventilation to mental energy, and gave general satisfaction. These ideas were by no means new to them; but, although they had often heard them stated by other lecturers, and had read them in books, it had occurred to few to carry them into practice. He, therefore, insisted largely on the evils which they inflict on themselves and their children by this neglect. Pulmonary consumption produces a large proportion of all the deaths that occur in New Englend, and he pointed out to them the train of causes in full operation, which lead to this disease. By breathing hot and vitiated apartments, the blood is not properly aërated, the lungs are enfeebled, and the tone of the whole system, mental and bodily, is lowered; nevertheless in this condition they make the most rapid transitions from a temperature of 70° or 75° of Fahrenheit's thermometer, which is common in their houses, churches, and lecture-rooms, to one of 5 or 10 degrees below zero, in the open air; a change sufficient to injure the respiratory organs in the most robust state of health, and much more so when weakened by this previous injudicious treatment.

On his visit to the "Farm Schools," Mr. C. thought the children presented a melancholy aspect. The weather was cold, and as the cold had come on suddenly many of them had not yet received their winter supply of stockings and shoes. They were crowding round the stoves with an expression of suffering and discomfort, which was distressing to behold. The buildings in which they live, are frame or wooden houses, divided into moderate sized rooms, low in the ceilings, and without any means of ventilation except the doors and the windows. They sleep crowded together in these apartments; the beds stand so close to the windows and the air is so cold, that they are not open during the night, and the air is excessively vitiated before the morning. The consequences are visible in the appearance of the children; and many of them are suffering under ophthalmia, and they present generally that sunken, inanimate, and unhappy aspect which betokens blood in a bad condition from imperfect nutrition and impure air. There is, he believes, no stinting of food; but the digestive functions suffer from the confinement in an unwholsome atmosphere, and hence the nutrition is imperfect. Speaking of the Alms-House at Philadelphia, which is commonly denominated the "Pauper Palace," from its being altogether so magnificent in reference to its objects, our author relates, that the whole establishment is kept clean to the eye, but the nose and lungs detect imperfect ventilation, particularly in the departments for the children; who are afflicted with ophthalmia, languid looks, and other indications of a low condition of the corporeal system. It is extremely difficult to induce paupers voluntarily to admit fresh air into their apartments, except in very warm weather, and in building an alms-house, adequate means for involuntary ventilation as well as warmth should be provided. He was glad to observe that pictures, objects, and apparatus, are supplied for teaching the children; and advantage not enjoyed in many of the city schools. Mr. C. attended a public meeting in the Hall of the Supreme Court, and he complains of its being destitute of ventilation. He suffered severely for several hours after leaving it from the effects of bad air. On mentioning this next day, he was told that several lawyers have fallen down dead on the spot while engaged in the most animated pleadings in this hall, and that, although apoplexy was assigned as the cause, some medical men, who knew the state of the atmosphere, had expressed an opinion that these catastrophes were probably hastened if not caused, by asphyxia. The late arrangements for ventilating the British Houses of Parliament are well known here; but no person has yet proposed to adopt them, or any other means, for the preservation of life and health in the public chambers and apartments of the capital.

Throughout this long article, we have not been obtrusive, we trust, with a too frequent introduction of phrenological facts and inductions: with this instance of self-denial for our plea, therefore, we would claim the reader's indulgence while we follow Mr. Combe in his excellent remarks on "phrenology and education:" the last being a theme on which the anxieties of our profession are, in these days, intensely concentrated. The observation was occasionally made to Mr. C. by persons who had heard his lectures on education, without having attended those on phrenology, that the views presented were so sound and luminous that he would have done much more good if he had omitted phrenology, and delivered them simply as founded on common sense. This, said they, would have saved the lectures from the prejudices which exist in so many minds against phrenology, and which render them suspicious of every doctrine and practice springing out of it. His answers were, First, that a knowledge of the influence of the organs on the power of manifesting the mental faculties, is a fundamental requisite to the right understanding of the subject of education. Secondly, That to have withheld this important knowledge, because it was unpopular, would have been improper and uncandid. By following such a course he should also have been extending the impression already produced by too many disingenuous phrenologists, that the science is worthless, and that the soundest views of education may be obtained without its aid, which he knows not to be the case. Thirdly, That such conduct would have been unjust and injurious towards the founders and defenders of phrenology. It would have been appropriating to himself the fruits, and leaving to them not only the toil but the obloquy of having raised them.—Fourthly, That lectures on education, founded on phrenology, make a deeper and more permanent impression on the understanding than if based on mere common sense, and can be more certainly and successfully carried into practice. Every man's common sense differs from that of his neighbour. In New England, he had visited a school, the head master of which told him, that he devoted one half of his whole hours of teaching to arithmetic and mathematics, because he had discovered that pupils who excelled in those branches soon became proficients in every other, such as grammar, geography, and repetitions. No phrenologist could have held such views, because he must have known that arithmetic and mathematics depend on different faculties from those which take cognizance of language, grammar, and general reasoning. Mr. C. observed that the organs on which arithmetic and mathematics depend predominated over the whole intellectual organs in this person's own head; in consequence of which he could teach these branches with most ease and success, and his common sense led him to conclude that all his pupils were similarly constituted to himself. When taachers rely solely on common sense and their own experience, they act merely on the suggestions of their strongest propensities, sentiments, and intellectual faculties, whatever these may be, without reference to the differences which exist between their minds and those of their pupils. Phrenology presents a scientific guide to all.

With this miscellany of selections, we must now take leave of Mr. Combe's Moral Philosophy, and his Notes on the American People, their manners, character, and institutions. His pilgrimage through the transatlantic states was chiefly a "Phrenological Visit," during which he registered a multitude of curious and most interesting facts relating to the physiology of the brain in connexion with the manifestations of the mind; and, in the reports of his observations, the phrenologists will be gratified to find that the diffusion of their science is proceeding rapidly among the intelligent and enlightened classes of American citizens. Both in his Philosophy, and his Notes, the general reader will meet with many speculations and principles strongly calculated to suggest the gravest reflections to a mind exercised in determining the preferable structure of society, and its bearings on the well-being of individuals and families and nations. In his greatly diversified topics relating to ecclesiastical polity, the theologian and legislator may discover the elements of a fair comparison between the advantages derivable from an established national church and those of chapels for worship supported by voluntary contributions—between the patriotism of a limited monarchy and that of a democracy. Here we have accumulated a medley of sketches valuable, as we deem them, and appropriate as a study for the medical and ethical inquirer. For ourselves, we are not able to accept of Mr. C.'s guidance in the momentous concerns of politics and religion; but we greatly applaud the purity and fervour of his philanthropy, and we venerate with a grateful devotion his philosophy of the human mind, with its beautiful and unbounded and benignant applications.

A TREATISE ON PYROSIS IDIOPATHICA, OR WATER BRASH, AS CONTRASTED WITH CERTAIN FORMS OF INDIGESTION AND OF ORGANIC LESIONS OF THE ABDOMINAL ORGANS; TOGETHER WITH THE REMEDIES, DIETETIC AND MEDICINAL By Thomas West, M.D. &c. &c.

IT is perhaps quite true, that if a man were to sit down to write upon "Dyspepsia" at length; he would have almost as much to do, as if he had undertaken to unfold the mysteries of that perplexing class of disorders, to which the name of "hysteria" is generally applied. In the present day, therefore, when folios are out of fashion, it may be advisable for an author to content himself with the mere exposition of one of its forms, as affording the only chance of getting to the end of his subject, within anything like a reasonable number of pages; but still this unnatural division of diseases, by the consideration of one symptom, severed from those of which it forms a necessary part, has manifest practical disadvantages, not the least of which is, that the writer is imperceptibly led, not only to ascribe to it an undue importance with respect to the others, but even to exalt it so far above them, as to come at length to look upon it as the essential cause of the disease itself. In the treatise now under notice, however, the author may suppose that he has escaped from this error, because he altogdther denies that the disease of which he treats is to be considered as a symptomatic one: his very title is "*pyrosis idiopathica*," and the whole train of his reasoning is directed to prove that it is a disorder per se, quite distinct from the various forms of dyspepsia, which, according to him, is an "organic malady," always complicated with disturbance in other viscera besides the stomach. It is probable, however, that persons who, like ourselves, have no favourite theory to support, will look upon it as another instance of an attempt to magnify a mere form of disease into a separate, or essential one.

Pyrosis, by which is meant a burning pain in the stomach, attended with copious eructation of a watery insipid fluid, known in Scotland by the name of "water brash," and in some parts of England by that of "black water," has been described by nearly all writers as a frequent symptom or attendant, in a greater or less degree, of one or other of the forms of dyspepsia; it has been duly noticed in this practical relation, and certainly seems to have received its proper degree of attention, as a part of a complicated malady; therefore when our author complains (vide p. 29) that it has been but very insufficiently described by previous writers, he must mean that it has not been described to his own liking, or in accordance with his views of its nature, which is certainly the case, and which will probably continue to be so; since it is not every one who will be brought to look upon pyrosis as "dropsy of an open cavity," resulting from impaired innervation, produced by a regular current of "depressing and poisonous influences," from without to within.

Still the work is far from being devoid of interest or of usefulness, especially in the remarks relating to the dietetic causes of the malady: the style is somewhat rambling, and disfigured here and there by the use of oddly latinised words, which have no very precise meaning: added to this, there is a kind of running commentary, throughout the book, on other men's opinions, which renders it no easy matter to get at the author's own; which however, as we think are worth noticing, we shall proceed to give an analysis of.

The Treatise, though not divided into chapters, or parts, successively explains the pathological nature—the means of diagnosis—the post-mortem degenerations—and the treatment of pyrosis idiopathica, and we shall follow this order in our remarks upon it.

According to our author, the disease in question is a serous flux from the terminal exhalants of the stomach, arising from nervous debility, as well general as local; and which debility is induced by peculiar causes to be afterwards described. It is however always advisable to give the author's own words on these fundamental points, particularly when it happens that his language is not very plain: it is rather difficult however to find a paragraph, in any of the earlier pages, which will be sufficiently explicit to give a correct idea of his opinions; but at p. 52, we have the following, which appears to embrace the essentials of his theory, which he is there attempting to illustrate by comparing pyrosis with cholera.

> "In pyrosis the skin and stomach are gradually affected, the innervation impaired, the circulation rendered languid and defective, the digestion feeble and imperfect, the animal spirits gradually depressed, the temperature and temperative principle manifestly at fault, the containing power of the blood-vessels loosened, the serous portion of the blood infiltrated, and considerable portions of the more watery part of it discharged by paroxysms." 52.

Now when we add *to* this that our author supposes that in pyrosis idiopathica, the fluid is secreted as well from the fauces and œsophagus as from the stomach, and that, from its collection there, the disorder ought to be looked upon as "dropsy of an open cavity," we have presented in a small compass the whole of his views on the matter; but before we go further, let the author again speak for himself.

> "Pyrosis then, in this our view, is only an aggravation of one of the common symptoms of derangement of the stomach. The pathological condition of the organ is one of great debility. For what is the affection but a dropsy of an open cavity? What is its proximate cause but an exhausted and disturbed state of nervous energy?" 3.

Even the writer himself, immediately after penning this passage, appears to have some misgivings as to the manner in which such an opinion may be received: thus he says—

> "In asserting that it is a dropsy of an open cavity. I am aware that it is a secretion of a mucous membrane, and duly bear in mind all the differences of the two tissues. Nevertheless, for practical purposes, I consider the analogy to be sufficiently strong; and I will go further and add, that they who are in years, and pyrotic, will not be long without dropsy, unless the condition of stomach be improved." 4.

Now for our own parts we cannot see the analogy at all; the organization of the structures referred to is so different: the mode in which diseases commence and terminate in them is so different, that even if we were inclined to admit that the pyrotic fluid is a mere bland serous exhalation, we could not compare it with the albuminous contents of a shut sac: besides few now-a-days look upon real dropsical effusions as the result of atony of the secreting part, but rather as the effect of congestion in the circulating system. In our own opinion, it would be as rational to call a mucous catarrh from the lungs a dropsy, as to do so in the case of pyrosis. Neither do we at all recollect to have observed any disposition in old "pyrotic patients" to become dropsical; on the contrary, they generally incline to the reverse, being for the most part dry, shrivelled, and emaciated; but when a man has once started a theory, he is generally resolved to maintain it "coute qui coute," and in doing so, often endeavors to elucidate it, by reference to facts which do not seem to bear at all upon the question; thus, we do not see what light is thrown upon our author's views of pyrosis by the following sentence:—

> "Nor are these the only morbid secretions of the same serous vessels. In some instances they secrete an acid liquor sufficiently corrosive to excoriate the tongue as it passes over it. I suspect that those cases of ventricular perforation which have in the north of England been made subjects of jurisprudent controversy, are of this nature. We all recollect how warm was the dispute of certain eminent physiologists on this matter. The discrepant evidence given by them before a judge and jury was reiterated in pamphlets and rejoinders. In my humble opinion it was a mere waste of words, and I deferentially assign these my reasons." 6.

We must refer our readers to the work itself for these reasons, begging to remind the author that, independently of John Hunter, Spallanzani, Adams, Burns and others; have proved the gastric juice to have the power of dissolving the coats of the stomach, after death, so as to produce a perforation of them: and that more recently Carswell has put the matter beyond all doubt: let us close this part of the subject with showing what our author believes the gastric juice to be.

> "I believe pyrosis to be a disease of serous vessels destined to secrete a fluid, which, when healthily acted upon by the other fluids, viz. the salivary, the oral, the pharyngeal, and the glandular muco-acid juices of the stomach, becomes gastric juice; and I believe in the existence of healthy gastric juice in no other sense but this." 33.

Then there follows a kind of summary of the opinions of other writers on this disease, the grand object of which is, to pick out those which appear to confirm the author's theory: the whole of this however conveys no exact information to our minds, being full of false analogies and a mode of arguing the matter which sometimes approaches to the ridiculous; take the following example.

> "Cold and damp *ab externo* induce dropsy. The continued application of various badly-selected articles of food to the surface of the stomach slowly poisons the surface, affects the innervation, and induces pyrosis. Cold and damp *ab externo* favour pyrosis. Bury a man in salt to his neck for a few hours, and you will have dropsy." 25.

We really cannot say what a man might have after such treatment, but think it likely that he might be the worse for it, in some way or other.

On the matter of diagnosis, our author is not very minute, nor indeed would it have been necessary for him to be so, unless he had been endeavouring to establish a new disease, since there cannot be much difficulty in deciding upon the existence of pyrosis. In reality, he nowhere gives anything like a connected history of the symptoms, but contents himself with expounding those of the diseases with which he says pyrosis is apt to be confounded, and then labours to shew a difference between them. So long, then, as the comparison is confined to cancer of the cardiac or pyloric orifices of the stomach, to organic disease of the pancreas, or to symptomatic pyrosis from pregnancy, the distinction is evident enough; but gastrorrhœa (or, as the author proposes to call it, "*stomach gleet*,") presents, as may be imagined, a serious obstacle to the maintenance of his views on the peculiar nature of pyrosis, for it is unquestionably the same disease in excess, and is described as such under various names, by all writers on the subject. Our author however is able to detect important differences between them, one being that in gastrorrhœa, there is burning pain in the stomach prior to the "rumination" of the fluid, which is hot and acrid, whereas in pyrosis there is no pain, and the secretion is insipid; another being that, in the former complaint, the discharge is from the "follicular glands of the stomach," and, in the latter, results from disease of the "terminal exhalants;" whilst a third is a mere general distinction, to the effect that "pyrosis is a disease of *serous* temperaments; stomach gleet of pituitous." To say that pyrosis is not attended with burning pain is to have no regard for the very name by which it is distinguished, or for one of its most prominent features; and, as respects the sensible characters of the secretion, it is well known that the pyrotic fluid varies in different cases, and even in the same persons at different times. It is nearly always alkaline; occasionally acid; generally insipid, but sometimes hot and acrid: therefore it cannot be allowed to have the uniform qualities which the present author wishes to assign to it.

It is all very well to assume it to be an atonic effusion from "the serous structure of the stomach, in lax and lymphatic temperaments," but this is at the best but a loose way of talking, which conveys no precise idea to those who are not obliged to imagine particular pathological conditions for the confirmation of particular views. The same may be said of the physiological opinions with respect to the filtering powers of the stomach, by which noxious agents are allowed to "percolate" its coats, and so to "depurate the blood," by casting off certain excrementitious matter in the same way as is effected in the kidneys by the secretion of urine. Those who want to know how this comes to pass, and what connection it has with pyrosis, may read all about it at p. 38.

Of the "post-mortem degenerations," as our author terms it, we have little or nothing, for he declares that "it is difficult to appreciate the pathological phenomena," and again, that "these must be rather a matter of conjecture than of history." Still, after so much had been said of the "pathological condition" of the parts concerned in this affection, we were not prepared for such a confession; we quite expected to be told that there was something more than "a mucous surface unusually pale," for as the disorder had been considered in an unusual point of view, with a special reference to certain essential organic changes, we looked for a corresponding account of the morbid appearances, as the groundwork on which the theory was built; all we have, however, on this head is as follows:—

> "The appearances of the stomach in true water-brash would only indicate a state of adynamic dropsy of that organ, just as a pale skin in cold sweats indicates a similar condition of the cutaneous tissue." 46.

We now come to that part, wherein the chief practical object of the author is expressed, consisting of an exposition of the dietetic causes of the malady; and the subject is ushered in by the following paragraph in italics:—

> "*Chemical and chemico-vital remarks on the non-azotic or not sufficieuily azotic constitution of the aliment usually consumed by the population in districts where Pyrosis is frequent.*" 49

These chemical and chemico-vital remarks then are intended to prove "that the steadily and constantly depressing influence of a humid cold atmosphere, on the periphery of the circulation, and slight but successive and daily repeated poisonous impressions made upon the internal digestive tube, are the joint agents which induce this malady."—(See p. 49.)

With this theory for the basis of his remarks, the author runs on through two dozen pages, occupied in shewing how these causes combined operate upon the "serous structure of the stomach," and the system generally, so as to produce pyrosis: and that the poor, whose diet is principally farinaceous during many months of the year, especially in particular localities, and who are necessarily exposed to the depressing influences of cold and damp, are found to suffer from it in proportion. The prevalence of dyspeptic disorders, among the poorer classes, is certainly very remarkable, and possibly would not be anticipated by those who have been in the habit of ascribing them to a too luxurious system of diet; there is probably then a good deal of truth in our author's remarks on this subject, although there can be little doubt that he carries the thing somewhat too far. *We* may believe, that a state of parts approaching to chronic gastritis, is the real pathological condition in the majority of these dyspeptic cases; but the exciting cause may reasonably be surmised to have its origin in unsuitable food, combined with the absence of those domestic comforts, the want of which are alone a fertile source of disease. In fact, all the forms of dyspepsia have always been set down, as occasionally arising from this cause, and we think it scarcely to be doubted (particularly by those who have practiced among agricultural poor) that the constant use of ailment, not sufficiently nutritious or diversified, that is to say of course, badly prepared farinaceous food, only varied at long intervals, by the most indigestible of the animal substances, is the great cause of the prevalence of these disorders among them. Whether, however, this kind of diet produces essentially the kind of pyrosis which is the subject of our author's treatise, is quite another question, and we must first admit the accuracy of his views upon it before we can agree that it is so. It is to be borne in mind, however, that the author attributes the disease to certain injurious impressions upon the external cutaneous surface, as well as to the direct application of poisonous agents from within: it is the union of cold and damp with this poverty of diet, that induces the disorder, and it is for this opinion that the author claims the merit of originality.

> "I scarcely know of any writer, foreign or domestic who has not attributed the prevalence of the malady to a poverty of diet, although most of them have overlooked the fact, that a mere farinaceous diet in a tropical climate is not sufficient to produce the disease to any considerable extent." 54.

Again he says—

> Let it be lawful to me to speak the truth without presumption. What assistance does the medical literature of Greece and Rome furnish to me in my investigation of this distressing malady? Absolutely none; and manifestly because such genial climates were not calculated to produce it." 75.

Yet the books of the great Roman Physician are full of peptic precepts, and if we recollect rightly, there is a chapter also, "*de Cardiacis*," where something like a hint of our author's own theory is given

The treatment recommended by him is for the most part dietetic, and since he insists that his peculiar form of pyrosis is essentially a malady of the starving poor, he urges the wealthy and benevolent to exert themselves in procuring for them a regular and sufficient supply of good animalised food, with warm cottages, and those general comforts that will insure them a permanent relief from mental anxiety! This would indeed be desirable under any circumstances; but, unless the golden age were to return, we do not see how it is to be accomplished: let us hope then that the evil may be remedied without any such miraculous interposition being necessary.

We quite think that it is the bounden duty of medical men, to represent in a proper manner to the proper authorities, the existence of anything which is ascertained to be injurious to the health of the community: but such representation should not be founded on mere speculation, and the plan suggested for the amendment of the evil ought at least to be of such a kind, as will admit of a practical application; as society is at present constituted, however, the recommendation of Dr. West could not be carried out, even if it were generally looked upon as judicious.

According to our author, the treatment to be pursued is based on the following indications:—

> "1st. To provide azotic food in order that the blood of the patient may be more highly animalized.
>
> 2nd. To increase steadily the vigour and heat of the circulating system, especially in the capillaries of the surface.
>
> 3rd. To give new tone and fresh impulse to the absorbent system." 105.

During the discussion of these indications, the author very absurdly inveighs against the apathy exhibited by the generality of town doctors, or those who practice exclusively among the rich, in relation to this disease; he declares over and over again, that such gentlemen know nothing about it, or if they do, that they have neglected to do anything towards its alleviation, because it happens to be a disorder, which is not met with among their favoured class of patients; thus, speaking of Sydenham, he says—

> "Not one word has he placed on record concerning this malady. And why? He lived in our metropolis. He never practised any where else; and, like many of our modern great ones, he delighted in narrating cases commencing with 'Vir nobilis,' 'Comes,' 'Mulier magni nominis,' &c., &c , shewing that in the sphere of his practice he had but little chance of seeing an affection which exclusively belongs to the badly fed and miserably paid rustic, or to the provincial labourer." 78.

Then a page or two further on, he launches forth into a style of invective which is altogether inadmissible in sober argument: for instance—

> "It is not to anthors (however great their talent) who have avowedly written for the rich and lazy, that we can look with any well-grounded expectation of suitable admonitions to lessen the miseries of patients suffering under this species of malady, for with some few exceptions, as an idiopathic disease it belongs exclusively to the poor." 80.

As a matter of course the guardians of the poor come in for their share of animadversion; we wish it was quite certain that they never deserved it. The author is speaking of the public officers of health, who existed in ancint Rome, under the name of "Ædiles Cercules," and laments that, in our days, their very important duties are usurped by men who are very incompetent to perform them; he then proceeds:—

> "In our time, guardians, committee-men, or overseers claim to decide on the laws of dietetics, although their knowledge of the human frame barely extends beyond a vague idea that man is a tube of some sort open at both extremities. It has been argued by the friends of such a system that the medical officer has the privilege of presenting to a board of guardians his recommendations for the occasional introduction of such articles of nutriment as may to him seem best suited to meet the occasonal exigencies of disease. It is not quite so evident that he has the moral certainty of seeing his recommendation carried into effect." 100.

From all that has been said then, it may perhaps be guessed that Dr. West assigns very little efficacy to the mere administration of medicines in in this disease: but it may again be as well to let the author speak for himself on this point.

> "We may try to rectify secretions, to brace up and fortify the stomach, but unless we can supply good wholsome food, animal and vegetable, together with warm clothing, a dry habitation, and the peace of mind which is the attendant upon a cheerful confidence, or at least a good hope, of a continuance of a comfortable 'daily bread,' all our measures will fall short of relief, and our pills and potions, our chemicals and our galenicals, will be a miserable mockery, a wretched satire upon that half science and half art which Cicero denominated 'God's second cause of health.'" 79.

After such a tirade, we should imagine that the author would not condescend to mention any mere medical remedies; and in fact he speaks slightingly of most of those which have long been acknowledged to have considerable power over the disease. Thus, according to him, bismuth is of no use whatever excepting in spasmodic dyspepsia; opium, "for true pyrosis as defined and explained in our account of it is decidedly injurious, rarely palliative, and never capable of effecting a cure." (p. 101.) Blood-letting in any shape, "in the popular affection of which we treat is decidedly mischievous," (p. 101), whilst nux vomica he will not incur the responsibility of recommending, but declares that, unaided by proper diet, it is good for nothing, and with it is quite unnecessary. Nevertheless in an "Appendix Medicaminum" he gives eight formulæ which he thinks merits recommendation; and as well as these, bark, quinine in sherry, warm balsams, and "spiced port wine," are favourably mentioned, though none even of these have any permanently curative powers unless assisted by a duly azotized diet.

The mineral acids are not even mentioned, neither is there much more than a passing allusion to hydrocyanic acid, or to creosote, all of which we would advise our author to try: and as a substitute for formula No. 2, which consists of nine different ingredients, we venture to recommend the following to his notice:

℞. Liquoris Calcis, ʒvij.
Spt. Ammon. Aromat. ʒss.
Tinct. Hyoscyami, ʒss.
Magn. Carbonat. gr. xx. M.

Haustus—bis quotidie secundus.

With this our remarks must close, wishing however, that the first parts of Dr. West's treatise had been more practical, and the last part more temperately written.

A PRACTICAL ESSAY ON SOME OF THE PRINCIPAL SURGICAL DISEASES OF INDIA. By *F. H. Brett*, Esq. M. R. C. S. L. Bengal Medical Service, Surgeon to the Right Honorable the Governor General's Body Guard. Calcutta, 1840.

THE plan, an useful one, of this work is to treat of all the *surgical diseases* met with in India. As these must, in the main, resemble those of other portions of the world, we must be excused from going through them systematically. All we can do is to select such passages as contain interest or instruction in regard to diseases incidental to the East.

The European Constitution in India.

An *European* on his arrival in India is generally in the highest state of plethora. By such a system of stimulating diet he seldom escapes a severe attack of inflammation shortly after his arrival. Mr. Brett points out the want of a medical superintendent of Cadets. They commit the most serious errors of diet and of regimen. The consequence is an attack of illness. On convalescence, the cadet renews the same habits, and he arrives in the upper provinces with his health restored. For the first few years of residence in India he becomes in high condition especially during the cold season. (We allude particularly to officers and civilians.) But his system, both vascular and nervous, is under a constant state of excitement, from the continued in-pouring of nutriment, stimulation and high temperature, and he labours under plethora from *repletion*, as well as plethora from *diminished secretion.* He is on the precipice of disease, and a slight impulse is sufficient to destroy the balance and precipitate him.

Should he survive the repeated attacks to which he is liable his constitution becomes enfeebled, his appetite impaired, his energies diminished, the secretions and excretions scanty, and the skin dark, harsh and dry. He is perhaps dyspeptic, and, in a word, his system becomes lowered down to the climate, and he is no longer recognizable as the energetic active European. His muscular system is much reduced. He is the "dried up Indian," with habits and constitution scarcely adapted for his native land. On the other hand, should his constitution still remain of the plethoric tendency, he is gross, corpulent and flabby.

Mr. Brett eulogises *gymnastics.* If Europeans, he remarks, cannot adapt their mode of life to a tropical climate, but must indulge in habits totally incompatible with such a climate, they should at all events endeavour to convert their food into wholesome nutriment, and preserve the robustness of their frames by practising athletic exercises, in the cool of the day, and wrestling in imitation of the Puh,lwans. It is indisputable that these individuals enjoy an immunity from disease, unknown by others. There are none whose constitutions resist the exciting causes of disease so well, although their blood is abundant and their vascular system vigorous. The few Europeans who have entered thoroughly into the spirit of these exercises return to their native land with vigorous constitutions capable of really enjoying their native country.

The writer has long admired and practised the calisthenic exercising of the Asiatics, and attributes a better state of health and stamina, and a capability for active pursuits, far superior to that enjoyed by him in England, to a systematic use of these exercises.

In the Governor General's Body Guard there is a very good specimen of a gymnasium amongst the troopers, some of whom are very well developed athletics, among the old and most respectable hands.

The gymnasium of the Asiatics much resembles that of the ancient Greeks, first introduced at Lacedæmon. The Hindoos perform these feats in imitation of Ram, the deity of war and victory. They have the "Palæstra" (Ukhara) for wrestling and other feats of agility, the Conistereum or conistra, in which they cover themselves with sand or dust, and the stadium for spectators. There is likewise the gymnasiarcha, (Khuleefa) who is the director and superintendant of the whole elected by general consent for superiority as having vanquished all the rest: the Zystarcha who presides in the Zystus or stadium. What originated in the early establishment of society for the purposes of acquiring strength and dexterity in repelling an enemy, became converted into a part of medical regimen when luxury and idleness reduced them to the sad necessity of applying to physicians, who referred them to the practice of gymnastics as a preservative, as well as a means of re-establishing health.

The "Moogdurs', the "Dund'h" and the "Lézum," are the best kind of exercises for general use in India, though it would be well for a young man to go through the whole system at first under a regular "Puh'lwan," and afterwards continue the Moogdurs, Dund'h and Lézum in moderation, as a high degree of artificial training may be carried too far; excess, even in what is good, is to be avoided. Nothing is so conducive to a perfect capillary circulation, to the healthy action of the liver and of all the secretions, the tone of the stomach and the sthenic state of the nervous and muscular system, enabling us to bear up against a long and sultry day. Friction and shampooing should not be omitted.

The Romans carried these athletic exercises to their utmost pitch, accompanied by all the state and magnificence of wealth, but it participated in the general downfall of that empire; and until recently the association of medicine with gymnastics was not renewed in Europe.

Moderate stimulation is requisite to the European in India, water drinkers are not observed to be the healthiest people.

Sloughing of the Cornea from imperfect Nutriment.

Instances of this description, illustrating the celebrated experiments of Majendie, occurred amongst the prisoners in the jails of Mooradabad Shahjehanpore and Cawnpore. These unhappy creatures were subject in the highest degree to every debilitating cause. Imperfect nourishment, their aliment possessing neither diversity, nor multiplicity of ingredients, impure air, especially confinement at night in closed wards surrounded by high walls, excessive heat in the Summer, severe cold, and great range of temperature in the Winter month, fatigue and mental depression. Many of these were exposed to an endemic dysentery, under which if they did not succumb, they became reduced to the very lowest ebb of debility, torpor and apathy. Almost all the secretions were suspended except that of the mucous membrane of the bowels. Their tongues were pallid, their extremities shrunk, and the surface of the whole body cold, even in Summer. There was no cutaneous transpiration.—Their eyes were glassy. Under this the inflammation of the conjunctiva occurred, an ulcer formed on the cornea, which speedily sloughed and penetrated the whole of the layers, followed by an evacuation of the humors of the eye. It was particularly remarked in *all* the cases, that there was *no pain.* There was increased secretion from the Meibomian, and lachrymal glands, and suppuration of the conjunctiva. The anterior chamber became filled with a muddy purulent fluid. The ulcer of the cornea sloughed, the lens became evacuated, and the eyeball of course collapsed. Both eyes were often affected, and the patient generally expired in an extreme state of emaciation.

Advantages and Disadvantages of Operating for Cataract, when one Eye is Affected.

Mr. Brett presents a sort of table of the pros and cons of this important question. Our readers may like to glance over them.

Objections, 1*st*.—One eye being sufficient for the purposes of life, why therefore subject the patient to the pain and inconveniences attending the operation?

Arguments in favor of Operating.—1st When one eye is diseased, blindness must almost necessarily follow by the formation of cataract in the other eye. Ergo, it becomes necessary to anticipate the disease in the second eye, by endeavouring to restore the sight in the eye first attacked.—2nd. Many people have a strong as well as a weak eye, and the former more frequently becomes diseased.—3rd. Obscurity from sympathy and habit, often results from a patient becoming blind of one eye; especially when first accidentally discovered by him on his closing his sound eye.—4th. The sphere of vision with one eye is considerably less than with two.

Objection, 2*nd*.—Great inconvenience has occasionally resulted from confusion of vision, occasioned by the different refracting power of the two eyes, one possessing and the other not possessing the crystalline humour.

Arguments in favor of Operating.—1*st*. Confusion of vision is not always or even generally the result of the operation.—2nd. Supposing that confusion of vision generally did occur, the arguments in answer to the 1st objection would equally apply to this—3rd. Again, the extreme anxiety of the patient in the anticipation of the disease ensuing in the other is a strong inducement for operating.—4th. The length of time likewise for the patient to wait until he becomes blind in both eyes, seems a needless delay, and painful state of suspense, seeing the period may vary from a few months to many years.—5th. *The diseased eye, favourable for operation, may become unfavourable*, first by accident, secondly, by inflammation of an acute or chronic character, adhesion to the iris, &c. *Amaurosis also sometimes follows from delay*, and change in the consistence and volume of the lens produces sometimes internal inflammation, and also absorption of the vitreous humour *which an early operation might have prevented.*

Objection 3*rd*.—An eye which has undergone an operation with every success, never obtains that perfection of vision which is possessed by a perfectly sound eye.

Arguments in favor of Operating.—Such imperfection is remedied by the employment of good glasses; and the question is not as to the patient being short-sighted, but as to his having any vision at all, seeing that the sound eye becomes generally blind. Moreover, the advantage of vision even with a glass, is preferable to blindness without, in that eye, in every respect.

Objection, 4*th*—When only one eye is affected, the operation has not such a brilliant effect, and the patient is seldom satisfied.

Arguments in favor of Operating.—Such a consideration is not of sufficient weight against the preceding arguments.

A few additional arguments in favor of operating may be adduced, but these are not of universal application, viz. 1st. The patient may have originally laboured under short sightedness (Myopia). Some of these patients see better after the operation than they did before, or than with the other eye.

2nd. Patients of an advanced period of life, who become affected with presbyopia, becoming affected with cataract, often see extremely well after the operation with the use of glasses.

3rd. Beer and others are of opinion that from the great sympathy between the two eyes, the morbid action of the sound eye may be prevented by the removal of the complaint in the diseased eye. But satisfactory cases in illustration have not been adduced. It is contrary, I should say, to general experience.

4th. The patient being young, a soldier, &c. are among the minor inducements for operating.

Indian Operation for the Stone.

The patient was seated on the lap of an assistant, with his back towards the assistant's face. The hands were secured under the hams, and thighs being bent at the acutest possible angle, and the knees likewise.

The operator commenced by kneading the abdomen, with his hands, well lubricated with oil, and pressing the bladder, moderately distended with urine, from the hypogastric region, downwards towards the outlet of the pelvis; and keeping up the pressure with his right hand, he introduced the fore and middle fingers of his left hand into the rectum, as deep as possible, grasping the stone behind the base of the prostate gland, and drawing the stone to the perineum, where it made a distinct projection.

A *packing* needle was then employed, by plunging it into the perineum, striking the stone, and removing all doubt of the presence of the calculus in perineo, before attempting any incision. These efforts were attended with a considerable deal of dragging and distention of the internal parts.

Inclining the patient more towards the horizontal, he now commenced the incision a little to the left of the raphe, making repeated and hesitating cuts. Mr. Brett introduced a sharp scalped into his hand and induced him to enlarge the incision considerably. When he had so done he passed the hooked extremity of a vectis behind the stone, and by a digging effort, and applying the power to the handle, using the arch of the pubis as the prop, he, by main force, started out the stone, breaking it however into a number of pieces; the calculus was soft, of the friable description.

Mr. Brett adds:—

"I endeavoured to mitigate the sufferings of the patient by all the suggestions I could make, and had I not insisted on larger and bolder incisions being made, or allowed the vectis to be introduced until they were completed; or had I not checked his hand when using the latter to force out the stone with great violence, fatal consequences, perhaps, might have ensued. The European instruments were shewn him, and he acknowledged their infinite superiority. A native operator confessed that the average mortality was 40 per cent." 503.

This work will prove extremely useful to our Indian brethren, and more particularly to the natives now brought up as surgeons.

OBSERVATIONS ON THE SURGICAL PATHOLOGY AND TREATMENT OF ANEURISM, BEING THE SUBSTANCE OF A COURSE OF LECTURES ON THAT DISEASE. Delivered in the School of the Royal College of Surgeons in Ireland during the Session 1839—40. Part I. By *William Henry Porter*, A. M. &c. &c. Octavo, pp. 214. Dublin, J. Porter. 1841.

MR. PORTER informs us that this book had its rise in the following manner:—

> "A short time previous to the Winter session of 1839-40, some cases of aneurism occurred under my care in the Meath Hospital, attended with unusual symptoms, and followed by important, and, in some respects, unexpected results. It became, of course, my duty to endeavour to explain the nature of these cases to the pupils attending the institution ; a task which I found to be attended with more difficulty than I could have anticipated, in consequence of the vague and indistinct ideas entertained by many of them as to the pathology and treatment of even the simpler and more ordinary forms of the disease. It seemed, indeed, to be the prevailing opinion that aneurism consisted in some particular lesion of an artery, to be cured, if cureable at all, by one particular operation, the only objection to such operation being the situation of the disease in a locality where the vessel leading to it could not be reached ; but, with respect to the existence of different pathological forms of the disease, and of the applicability of a suitable line of treatment to each variety, I discovered a good deal of incertitude or misconception. This deficiency, I confess, surprised me, when I reflected on the zeal and ability with which this branch of surgery has been of late years cultivated: but I found there was still something wanted, some short yet comprehensive arrangement, founded solely on pathology, connecting each variety with the operation or other treatment adapted to it, and explaning (or at least endeavouring to explain) the circumstances that so frequently mar the best concerted operations and accelerate a patient's dissolution." vi.

And so these lectures originated. In the arrangement of the subject he has endeavoured to treat of aneurism in its generic forms, (as far as is practicable) independent of the proper and peculiar features that may attach to it in any particular locality—to describe the different pathological conditions that precede and are supposed to conduce to the formation of the disease—to connect these with the symptoms as they arise—and to point out the mode of treatment apparently suitable to each variety. Another object with him has been to endeavour to ascertain how far our curative measures may be insufficient, and our operations unsuccessful, and to explain (to the extent our pathological information will permit) the causes and circumstances that thus exert an unhappy influence on our practice.

The first subject on which our author treats is HÆMORRHAGE. We shall glance at any peculiar opinions he may entertain.

He seems to think the internal coagulum of little service. It never occupies, says he, the entire calibre of the vessel, and, consequently, cannot block it up mechanically; and as its presence or absence depends on the distance between the wound and the next branch, it should follow, if it is instrumental in controlling hæmorrhage, that an artery divided close to such branch would never cease to bleed. This is by no means found to be the case, and therefore are there grounds for believing that the existence of an internal coagulum is more or less accidental, and not in any respect necessary, or even important.

We do not quite agree with Mr. Porter upon this head. If the internal clot be unimportant, how comes it that hæmorrhage is much more *likely* to happen if it is not present. Most surgeons will admit the greater tendency, on the part of a vessel, to bleed, when injured near a collateral branch, than when away from it. That surely must depend in a material degree on the state of the internal clot.

Mr. Porter remarks, and justly enough, that lacerated arteries sometimes bleed furiously, the natural process of arresting hæmorrhage not being always efficacious. Not long since, a man was brought into the Meath Hospital, whose fore-finger was broken and lacerated in a steam-engine—he resisted amputation, and for two days this apparently trifling wound poured out blood with a violence absolutely incontrollable. At length he submitted to the operation as the only means of saving him from bleeding to death; and from the clean incised wound thus made, not a drop of blood flowed—neither was it necessary to tie a single ligature. Very recently, in the case of a man whose arm was torn off by a steam-engine, the main artery of the limb hanging from the wound bled with a degree of violence nearly fatal before he could be conveyed to hospital. It appears, then, that the means adopted by nature to control hæmorrhage are not the same in this case as when an artery is simply divided by a cutting instrument, and that they are not uniformly brought into operation; but as these means are not understood, neither is it possible to explain the causes of the different phenomena that occur under circumstances so apparently similar.

Mr. Porter inquires into the method by which a notched or punctured artery heals.

> "Are the processes just described the same by which an artery that is only notched heals subsequently—or is it a matter of necessity that a vessel once opened in any manner must continue to bleed, unless its calibre is obliterated? On this subject I have met with a considerable diversity of opinion, and there has not been a sufficiency of evidence collected to decide the question satisfactorily. Many persons, for whose practical experience I entertain the highest respect, believe that an artery so circumstanced may heal without obliteration. Dr. Jones details three experiments, the results of which would show that the arteries of dogs, if only divided to the extent of one-third of their circumference, heal without their calibres being even diminished: but with reference to this point it must be remarked that the arteries of inferior animals do not, either in their physiological or pathological qualities, resemble those of man, and therefore, (to say the least of them,) all such experiments prove nothing in explanation of the process of repair in the human subject. Again, a case of aneurism, at the bend of the arm, and produced by the puncture of a lancet in bleeding, was treated by compression in Steven's Hospital, and recovered; the artery remaining perfectly pervious through the entire of its course; but in this case the vessel passed in front of the tumour, and the only way in which a connexion between them could be explained was by supposing the lancet to have transfixed the vessel, the anterior wound to have healed, and the posterior to have formed the aneurism But this is stretching imagination beyond probability—and it is far more likely that the artery which passed in front of the tumour was the

radial which came off, (as it frequently does), very high up, whilst the ulnar, occupying the usual situation of the main trunk, had been wounded, and the aneurism, in increasing in size, pushed forward the radial on its surface. Under all circumstances, however, and fortified by the uniformity and simplicity with which nature performs her operations, I freely acknowledge that I do not believe a wounded artery ever heals unless by obliteration. Already it has been shown that in an open and patulous wound, a notched artery will bleed to a terrific extent, merely because it cannot retract, and a coagulum cannot be formed. I have known death to be the result of such a wound of the anastomotica magna, near the condyle at the elbow, in a case that was left without assistance." 19.

Mr. Porter passes from the physiology of hæmorrhage to the treatment of it. Speaking of compression, he says:—"a graduated compress is to be placed exactly over the aperture in the bleeding vessel, and secured there by a bandage, rolled so evenly, that no one part of the limb is subjected to greater pressure than another; and so firmly as to lay the opposite sides of the vessel fairly in contact, but, at the same time, occasion as little pain as possible. This is generally accomplished by a comparatively moderate degree of pressure, and I believe the important point to be attended to is the evenness of the bandage rather than the force it exerts. In the arm, for instance, which is frequently the seat of this operation, in consequence of the artery being punctured by an awkward and ignorant phlebotomist, the bandage should commence with the fingers, each of which should be rolled separately and firmly, it must then be carried evenly up the arm, and terminate a short distance above the position of the compress. The arm should then be laid upon a pillow, and the patient receive the strictest injunctions not to attempt to move it. For some hours the case will require the most watchful attention on the part of the surgeon. If there is no increase of pain, or throbbing, or other uneasiness, the compression will probably succeed, and I believe many an individual has had the brachial artery opened without ever entertaining a suspicion that he had been exposed to so much peril: if there is this increase of pain or tension, the arm must be opened and examined lest bleeding should be going on internally."

Mr. Porter, of course, enjoins our chief dependence on the ligature. And he gives a hint which might be taken on some occasions with advantage. In order, he remarks, to secure an artery that has been perfectly divided, each segment should be seized with a tenaculum or forceps, gently drawn out from the surrounding cellular tissue, and held whilst an assistant ties up the mouths of the vessel with a round ligature properly prepared. In every instance, with one exception, the vessel should be completely insulated, and nothing but itself included within the cord: that exception having reference to the arteries of old persons which have become rigid and contain a quantity of earthy deposit, and are apt to break off during the operation of seizing and drawing them out. This may render it excessively difficult to secure such a vessel, and, in such a case, it will be advisable to include some of the adjacent softer tissues, (always excepting a nerve or a vein, which, under every disadvantage, ought to be avoided,) and the patient thus treated, in general, progresses very favourably. From inattention to this precaution, Mr. Porter has more than once seen great difficulty and delay in securing the arteries of a stump after amputation, and the operator at length obliged to resort to deep plunges of the needle.

Mr. Porter enumerates the different varieties of aneurism, inserting amongst them one with which our readers may not be familiar.

> "There is a pathological condition of an artery producing all the symptoms of circumscribed false aneurism, and apparently curable by the same means, which, as yet, has only been noticed and described by myself in the Cyclopædia of Anatomy. It teems to be formed by a dilatation of the fibrous and cellular coats, and the absorption of the internal lining. It appears to be so far a true aneurism as that the artery is uniformly dilated around its entire circumference, and it is so far a false one, that the internal lining membrane has been removed. I know not how to form a name for such a complex aneurism." 34.

Mr. Porter devotes some little attention to the causes of aneurism. He adverts to certain facts that he has made out.

1. It is a disease unknown to early life, not, (as far as I know,) having been observed antecedent to the age of puberty, and although old age is not absolutely and completely free, it is comparatively rare at that period; from an aggregate of thirty remarkable cases operated on, I find the average to be thirty-three years and a half.

2. It is much more frequently met with in males than in females: this is remarkably proved in cases of internal aneurism, but still more so in the external. I have made the most extensive inquiries on this subject in my power, and can find but one surgeon in Dublin who ever operated for the cure of popliteal aneurism in the female.

3. Arteries are liable to aneurism with a frequency nearly in proportion to their size: thus the most common seat of all is the aorta: and again, particular parts of these are more liable than others, aneurisms usually having their seats where the arteries are curved or bent, or where a branch may happen to have been given off.

Mr. Porter adds—

> "Seeing, then, that aneurism is at least negatively subject to certain laws—that it is not met with in animals—that it is not met with in the human subject before the age of puberty, and rarely in the female at any age—and that it prevails in the larger arteries, we must seek some explanation of its existing cause that will be consistent with these facts. But first it may be necessary to make a few remarks on the causes usually assigned. It is said that certain laborious trades and occupations predispose to aneurism, but this opinion cannot be supported. If it be meant that such persons are more exposed to injury, and that direct violence may sometimes rupture an artery, this is as easily understood as that a person working in the neighbourhood of a steam-engine will be more likely to be entangled therein, and have a limb torn off, than a person at a distance from it; but this is only accidental, and by no means a particular liability to disease. I cannot believe that any degree of labour, or exertion, or exposure, predisposes to the occurrence of aneurism; first, because the most laborious people in society, sailors, blacksmiths, porters, &c., are not a whit more liable to the disease than any other classes in the community: secondly, because women in the lower ranks of life are, in many instances, obliged to undergo more labor in proportion to their strength, than men—and boys and children infinitely more so; yet we have seen the exemption that these classes enjoy; and thirdly, aneurism is not more prevalent among the poor and laborious than among the rich and idle, in proportion to the relative numbers of these classes respectively. This latter assertion is so opposite to the generally received opinion, that many will be

inclined to disbelieve it, and its truth cannot be proved for want of statistic reports; I have made it, however, from my own observation, and would appeal to any practical surgeon of experience for its corroboration. Again, it has been stated that particular trades and callings, chiefly such as oblige their followers to keep their limbs in a bent posture, predispose to aneurism, and this is explained by the idea of the blood being forcibly impelled against the side of the vessel, in consequence of such position. Hence the prevalence of the disease amongst coachmen, postilians, horse-soldiers, &c. But there can be no doubt that other persons are equally, if not more, exposed to such influences, in whom the disease does not prevail—studious persons, and the higher orders of females, for instance: but with reference to trades, we may recollect that tailors spend most of their time in a very contracted position, and yet no one ever considered them as peculiarly predisposed to aneurism. I cannot, therefore, admit any of these as creating a predisposition to the disease." 39.

We confess that we are startled by this reasoning of Mr. Porter's. So far as we have seen, we should say that aneurism is more frequent amongst the laborious than the indolent classes of society. And so, we believe, are those alterations in the coats of arteries that lead to aneurism. This seems to us a matter of fact. As a matter of reasoning, it is consistent with all physiological probability that diseases of the arterial system should be most rife in those whose vessels are exposed to most wear and tear. The argument deduced from the infrequency of aneurism in women and in children appears to tell rather against Mr. Porter than for him. Women certainly do not make such violent exertions as men, nor do children. And as such exertions tell rather by their cumulative than direct effect, we should scarcely expect aneurism in the hard worked boy, though we might fairly look for it when that boy has become the broken down man.

Mr. Porter thinks that the condition of the arterial tunics which induces aneurism, or disposes to it, is unhealthy inflammation of the tunics. By this their qualities of elasticity and contractility are greatly diminished, and they will yield and become distended under the ordinary force of the circulation; hence we may understand how some of the pathological conditions of the artery come to be produced. First, the vessel may be rendered distensible throughout its entire circumference and thence dilated all round, in such a manner as to have acquired the name of *fusiform* dilatation. An artery, however, in this state cannot be considered as aneurismal: the blood circulates through it during life, and no portion of it is coagulated or withdrawn from the system. After death, indeed, a coagulum is always found within it—an additional proof, if such was wanted, that its contractility was impaired and weakened. But one spot of this fusiform dilatation may be weaker than the rest; and if so, it will be likely to yield, become dilated, and a true aneurism thus be formed, in which blood will be arrested and coagulated during life.

Mr. Porter, then, is satisfied that unhealthy inflammation is one of the most influential of the exciting causes of aneurism, and he has been led to the conclusion that intemperance, particularly in the abuse of ardent spirits, and repeated or ill-conducted courses of mercury have, at least, some intimate connexion with it. This latter medicine is seldom used in great quantities, or for any protracted length of time, unless for the cure of syphilis, and hence many have entertained an opinion that arteritis might be a result of the operation of the venereal poison. We are inclined to imagine that intemperance and abuse of mercury predispose to aneurism as to many other diseases, by impairing the general constitutional powers. Local or accidental circumstances determine the particular malady that shall ensue.

Mr. Porter passes to *Internal Aneurism*, the symptoms and diagnosis of which he first considers. He offers some suggestions on the latter head which we may notice. A gland, he says, or other tumour, receiving an impulse from an artery, is merely lifted up, and the pulsation is only felt at the apex—often by drawing it away from the vessel the pulsation ceases altogether: an abscess receives only an undulatory thrill from an artery, perceptible in the line of the vessel, but fading away and becoming indistinct in the remoter parts of the tumour: but the expansion of an aneurismal sac is equal in every part and every direction, and the pulsation can be felt as correctly at the base or at the side, as at the summit. Occasionally some tumours of a medullary or other fungoid nature exhibit a pulsatile character, and, if they occupy a situation in the course of a large artery, are liable to be mistaken for aneurism—indeed the resemblance is sometimes so great as to render a diagnosis extremely difficult. Nor will the position, growth, or direction of the tumour be sufficient to determine the point in question, for we know that aneurisms are uncertain in these respects, and may present themselves in very unusual and unexpected situations. He has known a popliteal aneurism, for instance, to appear on the front of the leg, beneath the knee, and it was curious that, at the same time, he had a patient in hospital with a fungoid tumour in exactly the same situation that exhibited a decidedly pulsatile character. He thinks the pulsation of a fungoid tumour is less forcible, less distinct, less *prononcée*, (as the French would term it,) than that of aneurism. But he has heard of cases in which the diagnostic symptoms were so obscure as to occasion considerable embarrassment to very acute and sagacious practitioners. Hence the necessity of making the most rigid investigation of every particular connected with a tumour of suspicious nature, for we shall find hereafter that aneurism is a disease in which even a trifling error may give rise to formidable, if not fatal, consequences. On applying the ear or a stethoscope to an aneurismal tumour, a peculiar sound, termed by the French the *bruit de soufflet*, is often, indeed generally, heard. It conveys the impression as if a rush of air took place into the sac at each pulsation; but as it is impossible to convey any idea of it by description, the practitioner must seek to render himself familiar with it: still, however, it is not pathognomonic, for the fungoid, or indeed any tumour situated on an artery will produce it, and it may be created by artificial pressure. It is almost needless to add that the mistake of confounding aneurism with fungoid tumour has been committed by the best surgeons, and is too easily made.

Mr. Porter runs over the sites of internal aneurism. He has seen one within the cranium. It was about the size of a small bean, in the basilar artery, the coats of which contained the same kind of earthy deposition that pervaded all the other arteries in the body, and which, therefore, must have been formed by dilatation only. The subject had been a man of some consequence, who suffered greatly from, and eventually died of urinary disease. During life he exhibited some derangement of the cerebral functions, which was attributed to sympathy with the bladder—he became absent, totally forgetful, listless, sleepy, and almost comatose; finally he died, and this little aneurism was found, the rest of the contents of the skull being perfectly normal and healthy.

Speaking of thoracic aneurism Mr. Porter observes, what we fear is too true, that there cannot be a doubt that many cases have occurred, in which "the stethoscope discovered no sign of disease in the heart or aorta," nor can this be attributed to careless examination, or want of competence in the auscultator; for no later than the past winter, a specimen of aortic aneurism was *exhibited*, which, during life, had been mistaken by more than one, and treated as pulmonary consumption. Yet it often affords valuable information even in cases of this kind. Mr. Porter adduces the following as symptoms of thoracic aneurism. There is generally some irregular action of the heart—irregular is the only word that can be used; for, in this respect, there are almost endless varieties sometimes it is wonderfully increased—there are palpitations, faintings, and other symptoms usually considered as indicative of the existence of organic disease in this viscus: sometimes the heart's action is regular on ordinary occasions, but becomes strongly excited by walking up stairs, or any similar exertion: sometimes there is absolute intermission; but a very frequent, and, Mr. P. thinks, characteristic symptom is a want of accordance between the heart and the arteries in one or the other of the superior extremities, the heart beating violently, whilst the pulse in one arm may be scarcely perceptible. If the aneurism be previous to the giving off of the left subclavian, it may naturally affect the pulse at the wrist, but such aneurism can generally be recognised by auscultation. If the aneurism arises subsequently to the origin of the subclavian, when it is most difficult of discrimination, we do not see how it should occasion a difference between the pulse at the wrists.

One of the most curious features of thoracic aneurism is where it simulates acute laryngitis, in consequence (as supposed) of some pressure exercised by the tumour on the recurrent nerve. Mr. Porter relates an instance of this not *very* uncommon occurrence. As it is usually productive of embarrassment in practice, we shall introduce it.

"In July, 1837, I was requested by a professional friend to see a patient of his suffering from laryngitis, and, if I deemed it necessary, perform the operation of bronchotomy at once. It had been only of three days' standing: the symptoms were dreadfully urgent and pressing—so much so, that I thought I had never met a more formidable case; and the idea of an aneurism never crossed my mind, as he had been attended by two physicians, one of them a most accomplished stethoscopist. I proceeded to operate without delay, and some notion may be formed of the urgency of the caae when I state that I punctured the trachea with a trochar, rather than wait a few minutes for the purpose of controlling some hæmorrhage that was present. After the operation, which afforded immediate relief, the patient was removed to the Meath Hospital, where he died, suddenly, in three days afterwards.

The case had been one of aneurism of the superior part of the descending aorta, which terminated by bursting into the left pleura: and, as the difficulty of breathing had been relieved by the operation, I imagined it at the time to have been produced by spasm of the glottis, accasioned by pressure on the recurrent nerve. But I have since seen so many instances of spasm of this organ being produced by remote influences, and occurring under circumstances apparently so little in connexion with it, that I am unwilling to refer it to this, or indeed any particular cause, except remote sympathy—an expression which will cloak ignorance under an appearance of science as well as any other." 68.

With regard to *pain* as a symptom, Mr. Porter observes that he never knew a small aneurism not pressing upon any important tissue to be accompanied with any remarkable suffering, and instances are sufficiently familiar of patients having dropped dead in whom the existence of the disease had never been suspected, in consequence of their never having uttered a complaint. But it is very different when the tumour has attained a larger size, for then severe and lancinating pains are experienced, not only in the chest, but in parts very distant from it: thus patients complain of spasms, and stitches in the side—of acute soreness in the spine of the scapula—severe and constant headache, resembling hemicrania—and one of the most prominent symptoms is cramps in the muscles of the extremities, attended, occasionally, with great debility, amounting almost to a paralytic loss of power and motion.

As an instance of the devious course which thoracic aneurism occasionally takes, Mr. Porter mentions the case of a man who was admitted into the Meath Hospital, suffering from pains in the chest, and most of the rational symptoms of thoracic aneurism—these suddenly subsided, and were shortly followed by the appearance of a soft tumour in the left groin, not distinctly pulsatile, but evidently exhibiting a weak thrill. He died in three days, and on examination, an aneurism of the thoracic aorta was found—its sac had made its way downwards between the crura of the diaphragm, and had burst behind the peritoneum: the blood was then apparently conducted down along the psoas muscle and presented at the groin.

Amongst the signs of aneurism of the abdominal aorta, Mr. Porter, of course, discusses the "bruit de soufflet," one always valuable, if not absolutely characteristic. And he alludes to a hypothesis and suggestion of Dr. Corrigan's, ingenious if not satisfactory. Dr. Corrigan remarks:—"'if an aneurism be in a constant state of distention, equally as the arterial trunk with which it is connected, then there can be no gush of a diverging current of blood into it; there can be no vibration of its parietes, and there will of course, be no bruit de soufflet.' An aneurism of the abdominal aorta is peculiarly calculated for preventing the production of the sound in this manner, and the doctor purposes to remedy the defect by altering the patient's position. 'It occurred to me,' says he, 'that if I could relieve an aneurism of the abdominal aorta from this hydrostatic pressure, that keeps it constantly distended, thus preventing that gushing current into it which produces bruit de soufflet, this sign might become perceptible, and we should then be able, by its presence to diagnosticate aneurism of the aorta at a much earlier period than we have yet been able to achieve.' He places the patient then in a recumbent position, whilst employing the instrument. The obvious objection to this explanation is, that it supposes an aneurism to be in a constant state of distension, which it never can be as long as it contains fluid blood, and its sac is capable of yielding to the force of the heart's action: if it could be, the blood thus left in a state of repose would soon coagulate, and spontaneous recoveries be much more frequent and numerous than they are. The objection, however, is only theoretic, and with respect to the practical fact, I am quite aware that a bruit de soufflet may be heard in one position, whilst in another it may not."

Treatment of Aneurism.

Mr. Porter points out the natural modes in which aneurism may be cured —by inflammation and effusion of lymph within the artery—by gangrene—and by pressure of the tumour on the artery. Yet, says Mr. Porter, in the majority of cases, we seldom see one of them exemplified—the disease sometimes gradually subsides—sometimes suddenly disappears without our being able to explain the fact—and dissection has not hitherto satisfactorily developed the resources of nature in this particular. Mr. Porter is acquainted with a case in which an aneurism had proceeded so far as to have caused absorption of the sternum: the tumour pulsated externally with a violence that threatened its bursting almost momentarily; the patient lay on his bed, propped up with pillows, expecting nothing but the most miserable death; yet, without any obvious cause, and in despite of the prognostics of his attendants, the pulsation suddenly stopped, the tumour subsided, and he is not only alive but strong and active at this moment.

> "A very interesting case occurred not long since at Stevens' Hospital: a man had an aneurismal tumour over the left clavicle, generally supposed to have been connected with the subclavian artery: various consultations were held upon the case, and operation was determined on when it was observed that the force of pulsation had somewhat diminished. I know not but that gentle compression might have been attempted, but the position of the tumour was so unfavourable that such treatment could have had no very decided influence on the disease; nevertheless, from day to day, the violence of the pulsation subsided—the size of the tumour diminished—and he left the hospital well.
>
> I have seen one remarkable case of recovery which I scarcely know whether to designate as spontaneous or otherwise: it affords but little practical information, but is, nevertheless, too curious not to attract attention. In the month of December, 1831, I attempted to pass a ligature round the innominata for the cure of a very large subclavian aneurism, but failed, in consequence of the vessel being extensively diseased. The history of the case, and the steps of the operation, have been already detailed in the first number of the *Dublin Journal of Medical Science*, March, 1832, and therefore need not be repeated here: it is, however, interesting to state that the patient recovered perfectly. The aneurismal tumour disappeared entirely—the man's health and strength were so completely restored, that he was able to return to his former occupation, as a day-labourer in the country, and, I believe, he is alive and well at the moment in which I write. It is not reasonable to conjecture that the mere exposure of so large a vessel could have led to its obliteration." 77.

Mr. Porter insists upon a principle to be steadily kept in view in the surgical treatment of aneurism,—*that* it is a case of hæmorrhage, with the sole peculiarly that the blood which is withdrawn from the bleeding vessel still remains within the part or organ: the indication, therefore, to be fulfilled resolves itself into two parts—one, the arrest of hæmorrhage —the other, the removal of the effused blood. Now, it has been already seen that the first or immediate means by which hæmorrhage is controlled is by the application of pressure on the bleeding vessel—the second, or remote, the establishment of such a degree of healthy inflammation within it as will lead to its permanent obliteration. Such are the principles which guide us in all our treatment, both medical and operative. As a means of pressure we look to the coagulation of the blood contained in the sac. This sometimes cannot be attained, or, if attained, is insufficient. And by this fact hang some important features of prognosis.

> "The aneurism which pulsates violently and is increasing with great rapidity, is extremely unpromising, for in such there is a large aperture leading from the artery into the sac, and a large wave of blood, at every pulsation, disturbing that which had been previously effused, and preventing its coagulation.
>
> Aneurisms which are very soft, and in which the contents of the sac are entirely, or nearly, fluid, are not likely to be benefitted by any treatment. There are some idiosyncrasies in which the blood scarcely seems to have any tendency to become coagulated at all, and I have seen large aneurisms, the sacs of which did not contain the smallest portion of a coagulum.
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> An aneurism, seated amongst soft and unresisting structures, is not one from which very favourable results may be anticipated: for even if the blood becomes coagulated, there may not be a sufficient force to press the clot against the bleeding vessel. This may obviously occur to aneurisms within the thorax, and I will have occasion to shew a very interesting example of this cause of failure in an aneurism placed more externally."

Mr. Porter proceeds to discuss the principles of treatment in internal aneurisms—rest and abstinence. Of course he describes the method of Valsalva, and adverts to the idea and practice of Dr. Stokes, the object of which was to diminish the quantity of the circulating blood, and, at the same time, increase that of the fibrine within it. He recommended small and repeated bleedings, but a diet the opposite to Valsalva's: it should be light and very nutritive, but, of course, free from any material of a stimulating nature. Mr. Porter admits the difficulty of the question, and adds:—

> "From observation on different cases of aneurism, I have been led to believe that there is a greater tendency to coagulation in the blood of one person than of another—in short, that there is a variety of disposition in this respect; but of the external marks, characters or symptoms by which the presence or absence of such tendency can be recognized, I am wholly ignorant. At present I know of but one circumstance which certainly disposes the blood to coagulate—namely the abstraction of a great quantity of that fluid from the system, and, therefore, if I attempted a cure on this principle, I would employ large bleedings—so large that each of them should produce syncope or some other decided impression on the entire circulation: it is however but fair to state, that having made several trials of the plan, I cannot speak favorably of it as a means of permanent cure, although in other respects I may think highly of it. Unfortunately we do not often meet with internal aneurisms in their incipient or early stages, when we might more reasonably expect advantage from some decisive treatment—in such I have had no opportunity of making the experiment: but even in cases of long standing and large size, in which a cure might almost be regarded as impossible, I can speak of the efficacy of large bleedings, in affording temporary relief, with all the confidence derived from experience. In one remarkable instance, I had a patient with aortic aneurism bled to syncope several times, even to the extent of forty ounces of blood, and always with the obvious result of relieving the pain and difficulty of breathing, and enabling him to lie in any position, which, at the time of his admission, had been impracticable. At the moment in which

I write there is a patient in the Meath Hospital with an abdominal aneurism, of immense size and fearful strength of pulsation, that has been treated in the same manner with such marked relief from suffering that he has frequently solicited to have the operation repeated. An apprehension has been entertained by some that a patient thus suddenly reduced to a state of syncope might never rally, and actually die of, or be killed by, the operation: and, perhaps, such a casualty may have occurred, but nothing even approaching to it has ever happened within my observation." 83.

Mr. Porter touches on the experiments which have been made with the view of effecting coagulation of the blood in the sac by heat, electricity, galvanism, and the injection of certain fluids. He justly objects to these, that the blood is contained in the living body, and differently circumstanced from blood in a basin "I have performed," says he, "numerous experiments of this description myself with the view of ascertaining the relative powers of different substances in producing a rapid and solid coagulation of fresh drawn blood, and never were experiments more completely devoid of any profitable result. Wherever the blood became rapidly *solidified*, the appearance, and (I suppose,) the nature of the mass were changed, and a new substance formed in no way resembling a natural coagulum: the result seemed to be purely chemical, and subject to the laws that govern such operations in dead and inert substances. I have already stated that similar effects would probably not be produced on blood within the system, and even if they were, I feel convinced that the presence of this new material might prove highly irritating and injurious."

Mr. Porter observes that there are few circumstances that can justify our refusing to operate for an external aneurism. Yet when there is proof of the existence of organic disease in the heart, or of the presence of an internal aneurism, or if there are two or more external aneurisms indicating a general disposition to the production of the disease, the operation ought not to be performed; and yet, when the test of experience is applied to this precept, a vast deal of uncertainty will be discovered, occasioned partly by the difficulty of obtaining proofs of the existence of internal disease, and partly by the difference in the constitution of individuals. In a case of popliteal aneurism, Mr. Porter has known a patient to suffer from terrific palpitations, with occasional fainting fits, and other symptoms of disease of the heart, to the extent to render the propriety of an operation rather questionable; yet the man could not be left to die; the femoral artery was tied, and before the patient was removed from the table all these symptoms had subsided. Nor are two aneurisms a positive bar to operation. In the Meath Hospital (during the Winter of 1833-4,) was a patient who had a popliteal aneurism in each leg: he was operated on for both by Mr. M. Collis, an interval of six weeks being allowed between the recovery after one and the performance of the second, and the result was in every way satisfactory. The man, however, was lost sight of.

Mr. Porter considers the question of amputation one that must occasionally be raised. If the bone is extensively carious, this is requisite. And it may be so, if the aneurism has grown to a large size, when gangrene might follow the ligature of the artery. This has usually, says Mr. Porter, been attributed to the obstruction of the main vessel, and the inability of the collaterals to convey a sufficient supply of blood; but there are no grounds or reasons to countenance such a supposition—first, because the contrary has been proved by experience, in thousands of instances; and, secondly, because gangrene, when it does occur, is not of the dry and shrivelled kind that seems to arise from diminished circulation and imperfect nutriment, but humid and moist, like that occasioned by a congested state of the veins, and an accumulation of blood within them. If, then, he adds, the tumor is very large, and has already interfered with the return of the venous blood—if the limb has become œdematous and painful—if the superficial veins are enlarged, and ramify numerously under the surface of the skin—or, if the limb is deficient in animal heat—there will be reason to dread the results of tying the artery; and, probably, many cases of mortification that have either not been accounted for, or attributed erroneously to other causes, might, on closer investigation, have been traced to this. It is also worthy of observation, that in cases of large popliteal aneurisms, although a cure of the chief and important disease may have been effected, the patients are liable to abscesses of the limb, and to tedious and inveterate ulcers of the leg for a long time afterwards, or it may be, during their lives.

When the sac contains too great a quantity of blood for the absorbents to remove, this becomes a source of nflammation and of suppuration. This may happen about six weeks after the occurrence of the ligature. Amputation, however, is not absolutely requisite on this account, for, except in some singularly unfortunate cases, the artery has been obliterated before the sac becomes inflamed. There is no danger from hæmorrhage on opening the tumor; and the proper mode of treating such a case would be, to make a free and extensive incision into it, discharge all the matter, turn out every particle of coagulum, and then apply pressure, in order to promote the agglutination of its opposite sides. The sacs of two subclavian and one carotid aneurism under Mr, Porter's care suppurated, where thus treated, and recovered without trouble, and even without an unpleasant symptom.

Mr. Porter does not think that the earthy or bony deposition in the arteries of aged persons constitute any valid obstacle to operation. In the healthiest artery the internal and middle coats are divided, and the ligature is sustained by the cellular one alone, and no more can happen with the artery of the aged person, because this earthy material has no connexion with the cellular tissue. It might indeed happen that a vessel thus circumstanced would not go through the process of adhesion and obliteration, and therefore there might be risk of secondary hæmorrahge; but there can be none of its immediate occurrence. Mr. Porter has operated on an artery of this kind without any unpleasant result, either immediate or remote, and would have no hesitation in doing so again, if urged by the necessity of the case.

Mr. Porter proceeds to examine the modes of treating an external aneurism, viz. pressure—ligature on the cardiac side of the tumour—and ligature on the distal side of it.

1. Mr, Porter mentions some remarkable cases of the good effects of compression.

"Some years since, a man suffering from aneurism, was admitted into the Meath Hospital. The tumour was situated low down in th epopliteal space, and was large, being fully the size of a turkey's egg. The limb was semiflexed, and could not be extended; pain very considerable, together with a sensation of numbness and tingling in the foot: tumour not compressible, at least pressure influenced its size but slightly: it was hard, and did not diminish in bulk when the femoral artery was compressed, which, however, stopped the pulsation. With a view to humour the patient, until he could be persuaded to submit to an operation which I conceived to be absolutely necessary, I rolled a bandage round the entire limb, from the toes upwards. This, as the idea of treating the disease by compression had never been contemplated, was very loose; nor had I the least notion that the tumour could have been influenced by it, one way or the other. But, on my visit the next day, the aneurism was gone. Within an hour after the application of the bandage, the patient experienced some pain in the tumour, which soon became excruciating, and continued the entire night. In the morning the tumour no longer pulsated—it had become solid and firm, and eventually the disease was cured. On another occasion a man was admitted into the same hospital, under the care of Mr. M. Collis, with a popliteal aneurism, the history of which I do not recollect with very great accuracy, except that it was rather of a large size, not compressible, and there seemed not to be much fluid blood within the sac. A bandage was applied to this in a similar manner to that in the former case: it caused immense pain; and in the following morning the pulsation in the tumour was no longer to be remarked. It, however, reappeared after a little time, but so very indistinctly that it was a questionable matter whether the sensation was not communicated from the finger of the examiner, and not from the tumour. The application of the bandage was persevered in, and, in the course of a very few days, no doubt could be entertained of a cure.

Such instances of inexplicable recovery are extremely rare, and, as examples of singular good fortune, are rather to be hoped for than expected; neither can any principle of practice be established on them; but I have occasionally seen compression used in another way with such great success as would, with most practitioners, sanction its adoption in every similar case. The cases I principally alluded to were treated in Stevens' Hospital by my friend, Mr. Cusack. As some of them have been published, it will be unnecessary here to state more than that the disease had been the consequence of wound—that the patients were young and healthy men—that the compressing force was evenly applied over the surface, and gradually increased, having been very gentle at first—and that the treatment was assisted by the topical application of cold, and the internal application of digitalis. Within a very short time past, a patient in the same hospital and under the care of the same distinguished surgeon, was treated in a similar manner, with the most signal success, for an aneurism of the anterior tibial artery, caused by the wound of a chisel." 100.

But compresson has not practically answered on the whole, for the artery is often not favourably situated for it, and the sac might be ruptured by it, whilst the pain of efficient compression is not unfrequently unbearable. Mr. Porter remarks that it may certainly be warrantable to try it where the disease has been the consequnce of a wound, and the vessel may be presumed to be otherwise healthy; but even then the size of the tumour becomes the subject of important consideration. If an aneurism is small, the compress may possibly be so placed as to lie directly on the cicatrix of the sac, thereby supporting it, and preventing its contents from being diffused; but if it is large the situation of the puncture will probably be towards one side, and then pressure on the centre will rather have a tendency to force it open and drive out its contained blood amongst the cellular tissue of the limb. It is difficulty to lay down any rule, and each surgeon will probably determine for himself. Mr. Porter expresses his own opinion:—

> "It has been my lot to witness some cases of circumscribed aneurism rendered diffused by pressure; and having seen the patient's distress and danger, the painful, the tedious and difficult operations he had to undergo, and the hazard to which life was exposed afterwards; and having well weighed the different contingencies that may occur, I have come to the conclusion, in my own practice, not to resort to compression, unless there was some insurmountable objection or obstacle to the employment of the ligature" 102.

The *Treatment of Aneurism by Ligature* next occupies Mr. Porter's attention. He imagines that the process by which aneurism is cured by the application of a ligature at its cardiac side, is not the same in the false aneurism and in the true: at least it is difficult to explain the varieties met with, or any other supposition. In the false, the great object to be accomplished is the removal of the impulse of the heart from the blood contained within the sac for a sufficient time to allow of this reservoir becoming slowly and gradually filled with blood, and for that blood to become firm and coagulated. This coagulum, then, is pressed upon or against the wounded and bleeding vessel, and produces those consequences within it that terminate in its obliteration; the blood, if the case proceeds favourably, is afterwards absorbed, and the sac, in process of time, is converted into a solid piece of ligamentous substance similar to that into which the arterial trunk has degenerated. The completion of this process requires different periods of time, according to the size of the vessel, the dimensions of the sac, and the quantity of fluid blood it can contain, but is always accomplished long before the separation of the ligature.

Speaking of the subsequent removal by absorption of the coagulum within the sac, and of the occasional occurrence of suppuration in it, he observes that, in several instances, he has evidently traced this unpleasant accident to a too frequent and injudicious examination of the tumour—in fact, to handling and compressing it to see if it was rapidly subsiding. It is painful, and may appear ungracious even to seem to repress the laudable zeal for inquiry and investigation that ought to be the characteristic of every student as well as of every surgeon; but in cases of aneurism, an overweening curiosity may be worse than useless—it may be injurious, or even destructive to the patient.

Mr. Porter does not think that the same principle of cure obtains in the true aneurism and in the false. In most instances of aneurism, particularly when the tumour has attained any considerable size, the wall of the sac is so thickened, and all the structures are so matted together and confused by depositions of lymph and fibrine, that the appearances are rendered most deceptive, and a very patient investigation will be necessary to develope the morbid changes. But there is one circumstance which, when observed, at once demonstrates that the aneurism has been produced by dilation, and not by rupture or ulceration. It is when the wall of the sac contains depositions which are only met with in the structures of the artery, such as the peculiar earthy scales that are formed in the vessels of aged persons, and the soft steatomatous material that may be the product of unhealthy inflammation at any period of life. In opposition to the opinion of Scarpa, Mr. Porter entertains no doubt that there is a pathological condition of an artery producing all the symptoms of circumscribed false aneurism, and apparently curable by the same means—that is, by the application of a ligature at its cardiac side. It seems to be formed by a dilation of the fibrous and cellular coats, and the absorption of the internal lining; and thus is so far a true aneurism as that the artery is uniformly dilated around its entire circumference, and so far a false one, that the internal lining membrane has been removed. Mr. Porter gives a case in illustration. In March, 1835, a man was admitted into the Meath Hospital, with popliteal aneurism in each ham, one of which had existed for several weeks; the other was of recent occurrence. The limb in which the larger and older one was situated was first made the subject of operation —the femoral artery was tied, but the patient died on the sixteenth day afterwards, the ligature on the vessel still remaining firm and undetached. Dissection shewed that both these aneurismal sacs had been formed by the entire and equable dilation of the fibrous and external coats of the arteries, and that the lining membrane had in both instances been absorbed. Mr. Porter relates another case, for the purpose of exhibiting the principle on which this form of aneurism is probably cured by operation. A man was operated on by Mr. Collis, in the Meath Hospital, for popliteal aneurism, on the 22d of January, 1831. The ligature came away on the seventeenth day—the tumour diminished; in short, everything went on well, and the patient left the hospital perfectly cured. So far as the aneurism was concerned, he remained healthy and free from inconvenience until his death, which happened in March, 1835, from fever, and such an opportunity for pathological inquiry was not neglected. The tumour, which had been originally of the size of a turkey's egg, was found to have diminished to little more than that of a walnut; externally it felt hard, and as if solidified. On being cut into, however, neither artery nor sac was obliterated—the latter being occupied by a coagulum of a deep red colour, through the centre of which was a canal of a sufficient size to allow the blood from the portion of the artery above the tumour to flow freely into that below it. It seemed as if the current of blood through the sac had never been interrupted, the only effect of the ligature having been the removal of the impulse of the heart from it.

Mr. Porter observes, that whenever an artery is dilated, either wholly or in part, the dilated portion is uniformly found after death filled with coagulated blood: it seems that under such circumstances the fibrous coat is so far weakened as to be incapable of emptying the vessel after it has been filled by the last stroke of the heart, and the blood that is within it remains there, and Mr. P. imagines that something of the same kind takes place during life, when the impulse of the heart has been removed by the interposition of a ligature. He details a case of aneurism of the femoral artery, and proceeds:—

> "From this case I infer—1st, that the contractile force by which an artery is emptied immediately previous to death, exists in the vessel, and is wholly independent of the heart, inasmuch as any assistance to be derived from the latter had been intercepted by the ligature; and, 2dly, that that force (whatever it may be) did not exist in the dilated portion of the vessel. Now, if reference is made to the manner in which blood circulates through a dilated vessel during

life—that the dilated portion is always full, and is expanded during the diastole, by the influx of a very small wave of blood sent by the heart, and is diminished by the exit of a corresponding portion, caused more by the elastic resistance of the parts covering the artery than of that of the vessel itself—it will not be difficult to perceive that the circulation of the blood through an artery, the vital qualities of which are thus impaired, the constant disturbance of the fluid within it, and the prevention of its coagulation, depend upon the heart, and that the blood will stagnate and become coagulated when the impulse derivable from that organ is lost. It is thus that I conceive true aneurism is cured." 122.

We must confess that we are not altogether satisfied of the correctness of Mr. Porter's notions with regard to true aneurism. And we suspect that his views will not be received without demur.

Mr. Porter touches on the ligature of the artery on the distal side of the aneurism. He thus sums up his own convictions. "As to the ligatures of the subclavian and carotid, for the cure of an aneurism of the innominata, I never allowed my mind to dwell on it for a moment, believing that it was necessary that both branches should be tied; and entertaining the opinion I do, that the ligature of the subclavian, in its first stage, before it reaches the scalenus, cannot for anatomical reasons, ever be practised with success. It appears, however, that in such a case the ligature of the carotid alone has answered the purpose, and so far experience seems to be in direct opposition to theory. Notwithstanding all these authorities, I confess I still find it difficult, in my own mind, to place confidence in this operation, or to recommend it, except in cases were, from the size and situation of the tumour, it must be impracticable to apply the ligature at its cardiac side; then indeed, the patient would be entitled to whatever chance it might offer, however meagre that chance would be." We fancy that the majority of surgeons will acquiesce in this opinion.

Diffused Aneurism.—Mr. Porter draws a distinction between "diffused aneurism" and "traumatic aneurism." The latter term he limits to the case, where there is an external wound so leading down to, and communicating with, the injured artery as to permit the escape of a portion of the blood from it. This latter is the essential condition of traumatic aneurism. Thus, the affection may have been produced by a wound, yet if that wound is healed, or not being healed, if it is very oblique, or if there is any circumstance that prevents the blood from passing out of the limb or part, it falls not under the appellation of traumatic aneurism. In either case, says Mr. Porter, there is always very great danger, partly arising from the loss of blood, but more particularly from the presence of the blood within the limb inducing a state of mortification; but this latter peril, being always proportioned to the extent to which the diffusion has reached, may be considerably modified by circumstances. Thus, if the wounded artery is firmly bound down by a fascia, or if there is any other obstacle to the free and rapid passage of the blood upwards and downwards through the limb, the growth and progress of the disease may be extremely slow, and it is only when the fascia has sloughed, or the resistance is otherwise removed, that the diffusion becomes extensive, and the patient's danger imminent. And the worst feature of the case is, that the nature of the disease may not, and probably will not, be recognised until it is too late. Mr. Porter mentions an interesting case.

A man received a blow on his leg, by the fall of a crate of glass on shipboard, whilst on his passage from Liverpool to Dublin; he came to the hospital complaining of deep and dreadful pain in the limb; but, on examination there was nothing abnormal to be found, no swelling, discoloration, tenderness, or lameness, and consequently very little attention was given to the case. In this state he went about during a period of six weeks, from one institution to another, at some regarded as an hypochondriac, at others,' perhaps, as an imposter, but at all completely overlooked, when, at the end of that time, he experienced a sensation as if something had given way within the leg, which immeditaely began to swell, and ran so rapidly into gangrene that amputation was performed on the following day. He died, and, on dissection of the limb, after removal, the posterior tibial artery was found ruptured, and a large quantity of blood under the deep fascia that lies behind it. A ragged sloughy aperture was seen in this fascia, and the limb in every direction extensively injected with blood. It seemed as if the artery had been injured by the original blow, and had bled under the fascia which subsequently gave way and burst, and then mortification rapidly ensued.

The treatment of diffused aneurism naturally occupies him. Mr. P. thinks that there are three varieties of case connected with diffused aneurism that may require each a distinct and separate mode of treatment.

1. Mr. Porter considers the wounded and bleeding artery as a point of secondary importance in coming to a decision as to the line of practice to be adopted, the chief being the quantity of blood effused; for if it is very great, even although mortification may not have accually taken place, yet it is quite possible the limb may be in such a condition as to render it inevitable; or supposing otherwise, and that there is so little apparent ground for this apprehension that the artery only is secured, still, if there is much blood, the probability is, that it will act as a foreign body, or perhaps that it may putrefy—that large abscesses and profuse suppuration will result, involving the necessity of deep and extensive incisions in a limb otherwise severely injured, and that a rapidly destructive hectic would be established. To determine the propriety, or otherwise, of amputation, all the circumstances must be taken into the account, and what should cause a leaning against amputation is the fact, that when performed for aneurism, it has been singularly unsuccessful.

2 "The next case for consideration is that in which an attempt is to be made to save the limb, and here the question for decision is whether the vessel may be tied at a distance, as in circumscribed aneurism, or whether it must be cut on and secured above and below the seat of injury: and here the quantity of blood effused must again be taken into account, as well as the presence or absence of an external wound. If there is no such wound, and the quantity of blood is not so very great as to dissipate every hope of its being absorbed, I see no reason why the Hunterian operation should not prove successful. The principle on which a cure is accomplished in diffued aneurism without a wound ought to be precisely the same as in the circumscribed, namely, the wound in the artery must be subjected to a degree of pressure sufficient to effect the obliteration of the vessel at that spot, and this should be perfected by the coagulum in the one instance as well as in the other." 137.

Of course it is desirable to avoid, if possible, cutting into a limb so gorged with blood, or *on* an artery so circumstanced. And in the tenth number of the *Repertoire d'Anatomie et de Physiologie Pathologiques*, there is a memoir by Baron Dupuytren, in which two cases are detailed, one that was under his own superintendence, in the Hotel Dieu, and the other under that of Delpech, at Montpelier, which go far to prove that the laceration of an artery by a spiculum of bone may be cured by the Hunterian operation.

3. But there is still another case, and let us suppose a limb into which a quantity of blood has been extravasated, not sufficient to cause a gangrene of the part, but still too abundant to admit a hope of its being absorbed. Here, I apprehend, the surgeon has no choice—he must cut down, turn out all the coagula he can reach, in this way getting rid of that which would be a subsequent source of irritation, and then tie the vessel above and below the aperture.

Mr. Porter touches on another point. If the diffusion has been caused by the rupture of a circumscribed sac of an idiopathic aneurism, it will be the more objectionable to cut down upon the injured spot, because there is so far presumptive evidence of the artery not being healthy in that situation, and consequently the risk of secondary hæmorrhage will be the greater.

4. For "traumatic aneurism" Mr. Porter advises the cutting down directly on the injured vessel, and tying it above and below the wound. Mr. Porter illustrates his position by a reference to the case of the brachial artery wounded in bleeding. He draws a practical distinction between the case where the artery is wounded without much effusion of blood into the parts around, and that where the effusion is considerable. Of these cases, one is only hæmorrhage, the other diffused aneurism. In the former there can be no reason why compression should not be tried—the artery is healthy, its position preserved, and its condition, in every respect, favourable; and, if properly and firmly bandaged, the wound may unite well, and the hæmorrhage be perfectly controlled.

If pressure, *judiciously* applied, fails, there is still a chance that the aneurism may prove circumscribed, and admit of subsequent treatment by the Hunterian operation. But in the actual traumatic aneurism pressure is not likely to succeed. Suppose it to be attempted, where is it to be applied? The artery in all probability has been pushed by the effused blood out of its position, and we know not where it is placed. And how is it to be maintained? To be of any use it must be even, firm, and unyielding, and the pain it would occasion must be absolutely intolerable—most patients would remove the bandage in despite of any warning to the contrary. Such are the objections to pressure even at an early period; but when the aneurism has become decidedly diffused, it is of course out of the question.

"It may possibly be objected, that in many cases of traumatic aneurism, a milder mode of treatment might be adopted, for that success has attended the application of a ligature on a distant part of the artery. I concede the point. If the obliquity of the wound, or its smallness of size, or any other circumstance connected with it, offers such obstacle to the flow of blood, that on the removal of the impulse of the heart from that part of the circulation, the external bleeding ceases, then the aneurism, immediately on the application of the ligature, loses its traumatic character, and is no longer subject to its laws: but how do I know, previous to an operation, that such is the exact nature of the case with which I have to deal? I see before me a wound, 'permitting coagulated blood to protrude, and fluid blood to trickle,' can I tell that these phenomena are produced and maintained by the impulse of the heart alone, and will cease when that influence is removed? No! such knowledge is not mine, and if in the spirit of empiricism, I practice the Hunterian operation and succeed, I have just the consolation of reflecting, that I acted rightly on wrong principles, and cured my patient, by exposing him to a double and therefore an unwarrantable danger. Again, if after the ligature has been tied, a sufficient degree of pressure is applied to lay the sides of the bleeding artery together, occasion its inflammation and subsequent obliteration—in short, if external artificial pressure can be made to effect all that which the resistance of the skin, and fascia, and other superincumbent structures would have accomplished in a less injured limb—then I conceive it possible that the removal of the impulse of the heart may be followed by a cure. But how do I know that I can apply such pressure, or, being applied, that it can be borne?" 144.

Causes of Failure of the Operation for Aneurysm.—Mr. Porter first touches on the return of pulsation in the sac. In proportion to the facility with which the blood enters this, is the cure of the disease put in jeopardy. The phenomenon in question may arise from different causes, some of which are known—others, perhaps, remain to be discovered. One is the existence, by an irregular distribution, of two trunks in the limb, both conveying blood to the aneurismal tumour. Sir C. Bell had a case of popliteal aneurism in the Middlesex Hospital, in which, just below the origin of the profunda, the femoral artery divided into two branches of nearly equal size, which ran parallel to each other, until they arrived at the spot where the artery perforates the tendon of the triceps muscle, and there they united again. Only one of these was tied, and although the pulsation ceased for a moment, yet it soon returned, and never disappeared until the patient's death, which happened a few days afterwards from erysipelas. A preparation of a similar distribution is preserved in the museum of the Royal College of Surgeons in Dublin, and Dr. Todd states that another is to be seen in St. Bartholomew's Hospital, London.

Another case, in which pulsation will be likely to re-appear in the tumour, is where one or more large branches arise from, or otherwise communicate with, the sac. The possibility of this occurence has been abundantly proved in internal aneurism, where it shews that the morbid condition of the vessel is dilation and not rupture or ulceration, but Mr. Porter is not aware that dissection has shown it in internal aneurism.

Mr. Porter conjectures, that tying the ligature too closely may be another cause. A few years since, the femoral artery was tied by Mr. Cusack for popliteal aneurism. The patient was excessively restless and turbulent, and it was with the greatest difficulty the operation could be completed at all. In the course of a few hours pulsation re-appeared in the tumour, and remained, for a few days, gradually dying away and becoming feebler, but the case nevertheless progressed favourably, and at little more than the usual period the ligature came away. When examined, it was evident the noose had been tied loosely; it could easily allow a tolerably large goose-quill to pass through it. About the same time Mr. P. saw a similar case, except that in this latter the noose was left large designedly, with a view that the impulse of the heart only should be removed, without absolutely preventing the passage of the blood. In this instance the appearances were very curious. When the patient's limb was bent, and the artery as it were relaxed, pulsation was not only evident, but tolerably strong in the tumour; when, on the contrary, the limb was extended, the pulsation disapeared. The noose of this ligature also separated slowly, and when removed was found to be very large.

The next circumstance is the existence of such an extensive and free communication, by anastomoses, as will convey to the tumour, by a circuitous route, the impulse which the ligature was intended to remove. It is probable that this condition obtains, with respect to aneurisms of the internal carotid in the neck, and that the free and extensive anastomoses through the vessels of the brain in their natural and normal state, will be quite sufficient, to interfere more or less completely with the cure. Mr. Porter relates three cases in point.

There is an anatomical peculiarity in the internal carotid, unfavourable to the exercise of pressure on the artery by the coagulum in the sac. Internally, or towards the pharynx, it has nothing but the mucous membrane, the constrictor of the pharynx, some very loose cellular tissue, and the twigs of the superior laryngeal nerve; thus the aneurismal sac has ample room to grow and increase inwardly, and, consequently, the pressure it is forced make on the opening in the vessel may be so trifling as not in any way to lead to its obliteration. Mr. Porter points out the necessity for examination of a carotid aneurism by the mouth.

A young girl, named E—— M———, was admitted into the Meath Hospital, with a varicose aneurism situated at the angle of the jaw, and extending downwards a short way along the course of the external jugular vein. It became very large and prominent when pressure was made on this vessel below, so as to interrupt the current of blood; it became then excessively painful, and exhibited the usual thrilling sensations, both to the finger and the ear; but when looked at from the mouth, a strong and continued pulsation, together with considerable tumefaction, was visible to every eye.

A probable reason of the non-success of the operation in some instances, is constitutional idiosyncrasy preventing the coagulation of the blood. The following appears to be a case in point. Some years ago, a man was admitted into the Meath Hospital, having received a stab of a sharp-pointed shoemaker's knife, about an inch below the right sternoclavicular articulation, by which the internal mammary artery and vein were wounded. These vessels poured out their blood continually, and in such abundance, into the cavity of the pleura, that the lung became dreadfully oppressed, and it was deemed advisable to perform the operation of paracentesis, on the fourth or fifth day after the receipt of the injury. The wound made in the operation was large, in the expectation that it might facilitate the escape of any coagulum, but the precaution was found to have been unnecessary, as the blood had remained in a perfectly fluid state, and flowed away with great facility. The quantity of blood thus lost was enormous, it must have amounted to some quarts, and as the wounded vessels still continued to bleed, it is scarcely necessary to add, that the patient soon died. On examination after death, a good deal of fluid blood was found in the cavity of the pleura, but not a particle in a state of coagulation. But, in fact, there are many cases on record more striking than this.

> "There still remains one condition more to be noticed, in which pulsation has been observed to return in the tumour after a ligature has been applied on the arterial trunk, namely, where it appears in consequence of, or, at least, in connexion with, inflammation of the leading vein. It is, perhaps, not easy to place these occurrences, in the relation of cause and effect, in the clear light of demonstration; neither is it of much importance, in the study of aneurism, for, when this calamitous accident takes place, the condition of the sac will form but a secondary consideration; still, the observation is new, and may be interesting in a physiological point of view. The peculiarity of the phenomenon in this case is, that it occurs after the inflammation has been established, that is, at a much later period than when produced by any of the preceding causes; that it increases in intensity along with it; and that examination after death exhibits no explanation of it except the one advanced. I apprehend the cause of it to be shortly this, that blood does not circulate through the inflamed vein—that congestion, consequently, occurs in the minor branches and capillaries—and that, as a result of the resistance thus offered to the circulation, a reflex action is produced in the arteries, just as in a case of congestion from inflammation or any other cause." 173.

Case.—On the 4th July, 1840, in the operation of securing the femoral artery for the cure of a popliteal aneurism, the vein was unfortunately pricked, and a small portion of it included in the ligature along with the artery. The case progressed pretty nearly as all such cases do, as unfavourably as possible, and the patient died, on the fifteenth day after the operation, of inflammation of the vein and its consequences. Pulsation re-appeared in in the sac on the 10th day, and gradually increased in violence until the man began to sink a few hours before his death.

On dissection, the vein was found extensively inflamed, but the inflammation had passed more freely down the limb, where it extended even beyond the popliteal space, than upwards, for it was limited in that direction at the groin. The vessel appeared enlarged—its coats thickened and solidified—on being slit open, the lining membrane seemed to be in a state of slough—it was of a muddy brown colour and bathed in a quantity of foul and fetid sanies. Masses of soft broken lymph were seen filling up the entire of the in several places, but there was no clot of blood, nor any discoloration of the lymph, to indicate that it had been in contact with blood since the time of its formation. Placed in connexion with the œdema of the limb, the enlargement of the superficial veins and other symptoms that occurred during life to indicate an obstructed circulation, it was the opinion of those who examined the limb, that blood had not circulated in the vein from the time it became inflamed.

Secondary Hæmorrhage is the next subject discussed by Mr. Porter. He dwells upon its difficulty, and on the uncertainty which envelopes the causes of this formidable accident.

Practically, says Mr. Porter, we meet with *secondary hæmorrhage* under two conditions—one, where there has been previous bleeding, which, being controlled for some time, bursts forth again: thus, if a bleeding vessel that had been tied, or a surface to which the cautery had been applied, should bleed, or even if a hæmorrhage that had seemed to have been stopped by the sanative powers of Nature alone, should appear again, this bleeding is termed secondary. The other, where there has *not* been previous bleeding, but where a ligature or some other form of compression had been applied to an artery, in order to the cure of an aneurism situated in some distant part. "Now," adds Mr. Porter, "in the first of these, all the cases of bleeding that occur at a very early period should be termed 'primary.' If a ligature has been loosely and imperfectly applied, and slips from its hold on the vessel—if a patient has been put to bed after an operation without all the wounded arteries being secured—if compression has been resorted to, and the bandage or other contrivance has yielded—or if the cautery has been applied sparingly and insufficiently, there is as little reason for considering the hæmorrhage as secondary, as there is for compassionating the surgeon, to whose *insouciance* the accident is attributable."

It appears to us that were Mr. Porter's suggestion acted on, there would be inconvenience and difficulty. The smaller vessels of a stump which are usually sealed by Nature at once, bleed in twelve or twenty-four hours after the performance of an operation. Surely this is as much secondary hæmorrhage, as if, on the separation of a ligature, the natural process has not closed the vessel. It is right, of course, to be acquainted with all the various circumstances that give a disposition to such hæmorrhage, and to discriminate that which occurs early, from that which happens at a later period. And this we think the best-informed surgeons do.

It is not the least important feature of hæmorrhage, whether primary or secondary, that it evinces great capriciousness in its cessation. Ruspini's styptic, and probably other more orthodox drugs, owe no trifling part of their reputation to this. The bleeding stops, perhaps all at once, and the nostrum gets the credit of it.

Case.—A boy, attempting some improper liberties with a female servant, was struck by her with a knife in the superior part of the thigh, and the profunda artery wounded: the bleeding was immediately controlled, but, after nine days, burst out again, welling forth without impetus, and coming from the inferior section of the artery. Pressure was applied, but inefficiently, for in a little time he bled again, and, after several recurrences of hæmorrhage, he was reduced to so deplorable a condition that something more effectual should be done. The application of a ligature on the bleeding vessel was out of the question, for, lying deep on the bottom of a granulating wound, its mouth could not be discovered: he was placed on the table, in order to have the iliac artery tied, when some person remarked that he had not bled since the previous evening—he was replaced in bed and never bled afterwards.

Mr. Porter cannot find a satisfactory instance of very early secondary hæmorrhage from the application of a single ligature, as in a case of aneurism.

The second form of consecutive hæmorrhage may be again subdivided into two classes essentially differing from each other in their origin, progress, and terminations, one occurring at a period near to, but somewhat earlier than, the time the ligature ought naturally and healthily to come away—the other, at a much later period, when the cord has been long separated, and, perhaps, a reasonable degree of confidence might have been entertained that the patient had surmounted every danger. The first of these is by far the most frequent of occurrence, and is sometimes, but not always, preceded by febrile symptoms and other indications of the coming event. The artery has usually been completely divided by the cord which may have come away. Mr. Porter has seen the blood flowing from the inferior segment, whilst the ligature was still firm and fixed upon the upper. It is always the inferior portion that bleeds. Though few patients die of the actual hæmorrhage, yet, either the extensive and successive bleedings, or the means it may be necessary to have recourse to in order to control them, or the wretched state of constitution that predisposed to the disease, and is daily aggravated by its continuance, each or all of these may lay the foundation for future ills. There have been several such *fortunate* cases in the Meath Hospital. In some mortification took place, probably induced by pressure on the vein, and one of these was only saved by amputation performed while the gangrene was still spreading. Others, again, at a more remote period, suffer from abscess, ulceration, periostisis, caries, mortification, and a host of other maladies involving the loss either of limb or of life. Mr. Porter has never seen a case of secondary hæmorrhage from the femoral artery that there was not erysipelatous inflammation and abscess on the outside of the thigh near the great trochanter. Unquestionably, it is not always easy to connect these accidents with the consecutive hæmorrhage by accurate pathological reasoning; but they occur too constantly to admit any doubt of their relation.

Mr. Porter explains the occurrence of secondary hæmorrhage by the existence of unhealthy, in lieu of the proper healthy inflammation of the artery. As a consequence lymph has not been thrown out. He adds,—

> "The most curious part of the question is, why these two forms of inflammation should occur in the same individual; yet, experience proves that secondary hæmorrhage only takes place from the segment below the ligature, and I have verified by dissection the fact that a different kind of inflammation takes place at the cardiac and the distal side of the cord. A man died on the sixteenth day after the operation for popliteal aneurism, and whilst the ligature still remained undetached from the artery. The vessel was carefully removed from the body, and on being slit up, the lining membrane of the portion at the cardiac side of the ligature was of a pale yellow colour, and nearly of its natural appearance, with the exception of one or two broad spots of a very light pink colour. A large coagulum extended upwards from the seat of the ligature, the base of which was attached to the lymph situated there. The ligature was still firm, but on attempting to tear it away, the lower portion of the vessel easily separated from it, leaving it still firmly fixed on the upper section—a circumstance that explained a fact I had frequently witnessed, that of secondary hæmorrhage occurring before the final separation of the cord. *Below* the spot where it had been tied, the vessel appeared to be of a deep pink colour, approaching to carmine, the seat of which colouring matter was in the cellular tissue, between the fibrous and internal coats. This cellular substance seemed to be hypertrophied and largely congested with blood, while it caused the lining membrane to be

thrown into transverse rugæ, or folds. On pulling off the membrane, it was pale, transparent, and colourless—devoid of proper vascularity; and, on looking along the slit side of the vessel, the fibrous coat and the internal membrane were seen like white lines, with the congested cellular tissue between them. There was not a particle of coagulum, either of blood or lymph in any portion of the vessel below the ligature." 184.

The following opinions will not be deemed othordox. Mr. Porter speaks of the denudation of the vessel in the operation, as a reputed cause of hæmorrage.

> "It has been already observed," says he, "that some of the most clumsily performed operations have had the best success, and *vicê versâ*—a circumstance that could not happen if the denudation of the vessel was of such extraordinary consequence. Again, in considering the subject pathologically, we find that ulceration is not a diseased process to which the arterial structure is prone, except when it occurs internally, and as a sequela to the inflammation and steatomatous deposit already so extensively noticed. An artery will lie perfectly denuded and white at the bottom of a phagedenic ulcer in the groin for days, before it gives way and bleeds; and when it does, it is not by ulceration, but by the formation of a slough, on the separation of which the blood bursts forth rapidly, and in a manner totally different from the phenomena of secondary hæmorrhage. Lastly, if this denudation was to have any injurious effect, it should be by cutting off the vascular supply from which the vessel derived its nutriment, and the consequence of that ought to be sloughing, and not ulceration; and, in either case, both sections of the artery should suffer alike, whilst it is known that the bleeding always comes from the inferior. Moreover, although experiments on animals cannot have any decisive importance attached to them, yet they may be noticed when they bear remarkably on any particular point. Haller and John Hunter, Sir E. Home, and, in this country, Sir P. Crampton, dissected off the external and fibrous coats of arteries with a view to ascertain whether aneurism could be produced by a protrusion or hernia of the internal one. In such an experiment, this membrane must have been deprived of all connexion with adjacent parts, and cut off from all vascular supplies. Why did it not die and slough away?—at all events, why did it not ulcerate, if this pathological explanation of secondary hæmorrhage be the true and correct one? The answer is simple and plain—because, in order to this result, a particular kind of inflammation must be established in the vessel, of which the artery of an animal is not susceptible, and which, although it may occur in man, is certainly not produced by the denudation so much spoken of and relied on. In these pathological observations let me not be misunderstood as advocating careless or clumsy operations; for, if operating myself, I should not wish to expose more of the vessel than would barely permit of the passage of the ligature around it; but I cannot, at the same time, shut my eyes to the truth, and admit as the solution of a phenomenon a fact so obviously insufficient." 186.

We are not quite sure that the preceding reasoning is conclusive. In the first place, it is certain that to denude the artery extensively *must* interfere with its vascular supply—in the second place, such interference cannot but tend to impair the vitality of the vessel—in the third place, there is no reason why ulceration should not ensue, as well as sloughing—in the fourth place, the matter of fact would seem to be that secondary hæmorrhage *was* more frequent than it *is*, and vessels *were* more bared in operations than they *are*—in the fifth place, experiments on animals are peculiarly unsatisfactory in such a question—and in the sixth place, the circumstance of some patients escaping in spite of denudation of the artery, proves rather the strength of their constitutions than the safety of any such practice.

Mr. Porter alludes to the plan of Mr. Abernethy, that, namely, of applying two ligatures to the artery, and dividing it between them. He says,—"What could be done more entirely calculated to avoid these influences than this operation? and yet, when we test it by the results of experience, we find it valueless; for it cannot be questioned, and the observation is supported by the authority of Dupuytren, that as many cases of consecutive hæmorrhage follow this mode of operating as any other; if permitted to speak from my own experience, I would say—more. Here, then, both the ligatures are placed as remotely as possible from each other—no part of the vessel is denuded or disturbed, except the intercept between them—and, when this is divided, both the segments remain in perfect contact with their natural connexions, as completely nourished as before the operation; and, if the hæmorrhage occurs amid all these favourable circumstances, it forms the strongest argument against those who imagine the disturbance of the artery to be its cause." We should draw the contrary inference. How two ligatures and intermediate division of the artery can occasion less disturbance than one, we do not clearly comprehend. We should imagine that it creates more.

> "Another cause that has been adduced as leading to secondary hæmorrhage is, the circumstance of the ligature having been applied near to a collateral branch, because, in such case, there can be no internal coagulum formed, and a part of the natural process must be incomplete. It has been already stated, that more importance seemed to have been attached to this early coagulum than it deserved; and, indeed, I cannot see how it can have any influence on an artery at so late a period as when the ligature is about to separate: but the best observation on this subject may be derived from experience. I have tied the common carotid, within an eighth of an inch of its origin from the innominata with the most complete success; and yet, if there is one spot in the body where this cause of secondary hæmorhage should operate with decided effect, it is here. This theory must, therefore, be dismissed as insufficient also." 187.

We apprehend that most unprejudiced surgeons will pronounce this hasty reasoning. A general rule, founded upon many facts, is tried by a single exceptional occurrence. As a matter of reasoning, the internal clot must be of service—as a matter of fact it has been found so, for the operation for aneurism has generally been most successful, on arteries with few collateral branches. If we might hint a fault in Mr. Porter, it is that he is too fond of arguing from exceptions.

Mr. Porter observes in continuation, that it seems to be nearly proved that, in a divided artery, a different process is set up in the two segments as preparatory to secondary hæmorrhage—that the superior one inflames *healthily*, lymph is effused, and the orifice obliterated—and that the inferior inflames *unhealthily*, lymph is not effused, the vessel remains open, and allows of the escape of the blood; the next, and the really valuable point to determine, is as to the cause which gives a tendency to this unhealthy inflammation in one individual more than in another.

Mr Porter observes, that however hopeless the case may appear, when considered pathologically, it is certain that some patients have recovered, and, therefore, it is our duty to use our best exertions: and he thinks the case ought to be treated in the same manner, and on the same principles, as ordinary hæmorrhage, namely the vessel must be subjected to the degree of pressure which would in such cases cause its obliteration. Here the ligature is inadmissible, because, in the confusion of parts, it would be difficult, if not impossible, to find the artery, but more particularly, because that line of practice had already been tried and failed. There appears then to be no resource but the application of medical pressure by some other method, and if this does not accomplish the desired purpose, and the limb cannot be removed, the patient's chance of life is but small indeed.

Mr. Porter discusses the propriety of applying a fresh ligature on the artery nearer the heart. He inquires—"if the superior segment is closed and blocked up with lymph, or if, as I have before noticed, the ligature still remains upon it, whilst the lower had separated and was bleeding, of what possible utility could the tying of the artery higher up prove? It could only remove the impulse of the heart from the superior section, from which no danger is to be apprehended, but could have no influence on the lower, already deprived of that impulse, and supplied only by the collateral branches." Mr. Porter thinks the operation positively injurious in two ways; one by a fresh secondary hæmorrhage from the newly-tied artery, and the other, by inducing gangrene.

He adds:—

"On a prima facie view of the subject, it would be only natural to suppose that where the ligature of the femoral artery is followed by secondary hæmorrhage, the same causes operating in the same individual would occasion the same result if the iliac was secured afterwards. Such is really the case, but with this difference, that the hæmorrhage from the second ligature always appears at an earlier period than that from the first. Some years since, I had an opportunity of seeing this fact fatally exemplified, in a man who was the subject of operation for popliteal aneurism. In this case no ligature was used; but the artery, having been laid bare, was compressed with Deschamp's instrument; yet, in due course of time, secondary hæmorrhage made its appearance—the artery bled on the eleventh day. There was space for securing the vessel higher up on the thigh, which was accordingly done; the ligature here separated, and the bleeding occurred on the sixth day, the external iliac was then tied, but it bled on the third day. As a last recource, the thigh was amputated, although I never could learn what benefit was expected from this operation, and the patient died upon the table. In these remarks, relative to the second ligature of arteries, I am again borne out by the high authority of Dupuytren, who observes, that in these cases the cellular tissue of the artery becomes inflamed and hard, that it brakes down under the ligature, and, being thus incapable of retaining it, allows of its premature separation." 192.

If the second ligature is not followed by hæmorrhage, the patient is still, by no means safe, gangrene not unfrequently occurring. We think that the opinions of Mr. Porter on this subject deserve the consideration of surgeons, although we are not prepared to say that we go their entire length. Whatever theory may inculcate, there are still a sufficient number of cases of success from applying a second or even a third ligature to make us hesitate to sweep the operation from amongst the *possibilia* of surgery.

The treatment of the case which Mr. Porter recommends is this:—on the appearance of the blood the wound should be opened up, the granulations broken, and the mouth of the bleeding vessel fairly exposed; on it a small piece of prepared sponge should be placed deep in the bottom of the wound, care being taken that the pressure should be confined to this one spot—on this a small compress of lint, and another, and another, successively, until the graduated compress shall have attained a level higher than the adjacent surface of the limb. This must be firmly retained without being permitted to slip, and without allowing the escape of a single drop of blood; and, if this can be accomplished for three or four days, there is every reasonable probability of success. But here is the great difficulty. It is scarcely possible to apply a bandage, so as to answer the purpose, without interfering with the venous circulation and occasioning great pain; and as all bandages stretch and slip, and become relaxed, no certain reliance can be placed on them in cases where the patient's feelings encourage him to disturb them.

Now, let us suppose this pressure applied and maintained in the best possible manner—suppose a number of assistants relieving each other in keeping up a continued manual pressure, and regulating both the quantity and direction of it to the extent that might be necessary, and no more, still is the case unpromising: for the artery is seldom in a condition to effect those changes necessary to the permanent suppression of the bleeding, and although some few recover, yet is the chance against any given case exceeding great. For the management of one of these cases Sir P. Crampton contrived a kind of tourniquet, which has hitherto prove useful, and, probably, will be successful where success is possible. It consists of a plate on which the back of the thigh rests, to which is attached an iron hoop-ring; in the front of this ring a screw is placed, which, acting on a plate underneath, makes direct pressure on the graduated compress, whilst the hoop protects every other part of the circumference of the limb. By means of this instrument two cases were treated in the Meath Hospital with the most remarkable success, and some others, Mr. Porter believes, in Dr. Setevens'; it may be removed if the bleeding continues subdued for a few days; but the sponge at the bottom of the wound should be left to be detached by suppuration. But in all the cases of recovery, abscesses formed in the superior and external parts of the thigh, pending the pressure or immediately after its removal; in one of them the wound became sloughy, and fears were entertained that it would be necessary to discontinue the pressure. The first on whom it was tried seemed to recover well, but, in a short time afterwards, was attacked with abscesses, disease of the knee-joint, periostisis, and finally the limb was amputated for spreading gangrene. Mr. Porter has seen two other cases treated by compression end fatally.

Sometimes the patient complains of intolerable pain from the pressure, the limb becomes œdematous, and gangrene supervenes—sometimes the part of the thigh immediately around the wound is seized with erysipelas, which spreads in every direction, notwithstanding the removal of the pressure—sometimes the edges of the wound become lived, dark purple, or black, and gangrene commences there. In all and every of these cases, the constitution is deeply and dangerously engaged. No case of secondary hæmorrhage can occur without great anxiety and excitement of mind, accompanied by the debility which is the natural consequence of repeated losses of blood. This combination produces an irritative fever of the worst kind, exhibiting symptoms of nearly typhoid depression: a system thus deranged is very unlikely to make any successful rally.

Such is the picture drawn of compression by its advocate. We must be excused if we adhere to the opinion we expressed, and believe that a second ligature may sometimes be judiciously employed. For many of the evils described by Mr. Porter are attributable to compression itself.

> "There is still," says Mr. Porter, "another form of secondary hæmorrhage, more provoking in a surgical point of view, (if I may be allowed the expression,) than either of the former, because it comes on at a later period, after the ligature has been for some time separated and removed, and when both practitioner and patient might have entertained a reasonable expectation of having surmounted every danger. This, as far as I know, is a most calamitous occurrence, and scarcely admits either hope or chance of escape. Thus, when the wound remains a long time open and suppurating profusely, or when abscesses and sinuses form around the vessel, or when it lies bare and denuded at the bottom of the wound, there is danger that it will give way and slough, just as it might do in any gangrenous or phagedenic ulcer. It is probable that to this cause the failure of Mott's case of ligature of the innominata is to be attributed. The ligature came away on the fourteenth day after the operation, and on the twenty-third day the hæmorrhage occurred, bursting forth with great violence to the extent of twenty-four ounces, and nearly destroying the patient in a moment; he died on the twenty-sixth day, and dissection shewed a large and deep ulceration around the artery, which had spread to, and engaged it, as well as the other great vessels arising from the arch of the aorta.
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> Mr. Abernethy had a case nearly of this description in the femoral artery, and I have seen one in the arm, where the artery was completely insulated by a sinus running along it. Fortunately these cases are not of frequent occurrence, for they scarcely admit of any remedy except the deplorable one of amputation, and if the situation of the vessel will admit of this, I know not how life could be preserved; for it would be impossible to apply pressure on a vessel in the midst of such an open sore or abscess; and I have already shewn how very inefficacious a ligature must be when placed higher up or nearer to their heart. It is obvious that this kind of consecutive hæmorrhage must frequently owe its origin to constitutional causes, and also that the place in which the artery is situated may occasionally have some influence. Thus, as these protracted unhealthy suppurations are prone to occur where there is abundance of loose cellular texture, such as the anterior mediastinum or the axilla, perhaps there is less reason to calculate on the successful results of operations in such localities—at all events they are not the situations that would be chosen if there existed a power of selection." 199.

Aneurismal Varyx and Varicose Aneurism.—After noticing the occurrence and nature of these forms of aneurismal disease, Mr. Porter remarks, that perhaps there may be some fortuitous circumstances, connected with the size or the direction of a wound, that may dispose to this particular result, and with which we are unacquainted, and thus the communication may be established between vessels in a normal and healthy state. But he thinks there is something in the vessels themselves, which leads him to notice a condition of artery and vein that, if it does not occasionally produce this affection, seems strongly to predispose to its occurrence. Every anatomist is acquainted with the close adhesion that exists between the popliteal artery and vein in the adult male, an adhesion so frequent and so firm that it may almost be regarded as the natural condition of these vessels in such subjects; now, it must be quite obvious that, in the event of a perforating wound, such previously formed attachment will greatly facilitate the establishment of an aneurismal communication; and Mr. Porter has seen such attachment between the vessels in other situations, probably the result of chronic inflammation, often, for instance, in the thigh. Mr. Porter is not aware that this condition has been noticed by Scarpa, or other writers who have described the disease, they, generally, regarding it only as the result of injury, and so explaining its accidental formation between healthy vessels; but, let us admit for a moment the possibility of its being idiopathic, and such explanation must be evidently imperfect. On the other hand, in the event of ulceration attacking an artery in a spot corresponding with an adherent vein, it is not at all impossible but that a communication may thus be formed. Mr. Porter, indeed, has never seen a fusiform dilatation of an artery, the very state in which ulceration is likely to occur, that the accompanying vein was not firmly adherent to it. In the Winter of 1839-40, a case of subclavian aneurism occurred in the Meath Hospital, in which the patient died suddenly, previous to the performance of any operation; and, on examination, two separate and distinct fusiform dilatations were found, both of which were so strongly adherent to the vein as to be separated with difficulty without laceration. And, more recently still, a case of mixed aneurism of the femoral artery was examined in the same hospital, in which the vein was so adherent to the dilated artery as to compress it along the entire line of attachment, and cause the expanded portion to assume an hourglass shape.

With respect to the treatment of the affection, Mr. Porter is disposed to do little in the way of operative interference.

> "If," says our author, "we shall be satisfied with preventing an increase of the tumour, very moderate compression will be sufficient; but this treatment is purely palliative, and immediately on the compression being discontinued, the varix will commence to grow again. If our aim is *permanently* to check the disease, the abnormal current of blood must be stopped, and this can only be effected by the obliteration, either of the artery or of the vein, or of both, by inflammation. Now, in seeking either of these objects, a good deal of discrimination is necessary; and I believe it will be important to modify our views according to circumstances. In the simple aneurismal varix I have already said that the mildest treatment will be the best, and I should be satisfied with such a degree of compression as would merely control the disease: but in this, as in every other form of aneurismal affection, there are circumstances that may forbid the employment of pressure at all. The varix may be so situated that compression could not be applied—in the neck, for instance, or in the axilla: or, being applied, it may occasion a degree of torture that cannot be endured; or it may produce œdema or numbness of the limb—in short, the same objections may be raised to it that have been applied to compression generally.
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> Dupuytren is very decided in his reprobation of pressure; he says it is very difficult to employ, very inconvenient in general, and, according to the seat of the affection, occasions dangerous swelling and intolerable pains: moreover, it is inefficacious in obliterating an old aperture, rounded off, and organized like the lining membrane of arteries and veins, circumstances in which the ligature itself almost always fails. Doubtless these observations are perfectly true—there

are cases in which compression cannot be tried, and others in which it cannot be borne, but they are very few, and in considering this point, and in testing it practically hereafter, let us attach a definite meaning to the term. Dupuytren, and the other opposers of compression, speak of it as a *curative* means—I, only as a *palliative:* they seek to stop the abnormal current of blood—I, only to moderate its force, and it is probable both parties are right. I know that, in some fortunate cases, compression has cured the disease; but, nevertheless, I should not be disposed to place much confidence in it, and would never resort to it whilst I possessed the alternative of performing an operation less tedious and less painful." 211.

An operation is more likely to be requisite for varicose aneurism than for aneurismal varyx. The aperture from the sac into the vein may be less free than that into the artery, and hence the sac may increase. What operation is to be preferred? Mr. Porter observes that, according to Dupuytren, Hunter's operation always fails on account of the numerous anastomoses carrying the blood round to the seat of the aneurism; and the observation is a correct one, though not sufficiently explicit. The varicose aneurism is, as to the principle on which a cure is to be effected, precisely in a similar condition to the traumatic aneurism—that is, there is an aperture in the sac through which fluid blood can escape—the sac, therefore, can never be filled by a coagulum, or brought so to press upon the injured artery as to cause its obliteration. The Hunterian operation, then, will be a palliative, as long as it removes the impulse of the heart from the tumour; but the moment that impulse is re-conveyed, by the collateral circulation, it becomes completely useless. It may, therefore, be performed, and may appear to be successful in particular situations, but it is wholly inapplicable where an extensive collateral circulation exists—as, for instance, in the internal carotid. There only remains the operation of cutting down on the artery, and tying it above and below the wound; an operation often exceedingly difficult. For, first, if it be possible, the vein should be spared—it ought not to be cut into, or tied, or otherwise interfered with; and it is often no easy matter to avoid it; for we know it is distended and swollen, lying in general immediately in front of the artery, so that the operator must go round it, if he wishes to reach the latter vessel in safety. Another cause of difficulty is the hæmorrhage; it is always a bloody operation when the tumor has reached to any considerable size and happens to be opened; and, although the bleeding may not be such as to bring life into absolute peril, yet it always obscures the parts; and it is particularly difficult to obviate this source of inconvenience; for the same pressure that will control the flow of blood from the artery will encourage and increase that from the vein. These reasons will be quite sufficient to teach any operator the utmost caution in meddling with the vein. Suppose, now, that the surgeon has been able to expose the artery, he finds it almost constantly in an abnormal or unhealthy condition—very often it is dilated—always it is so firmly adherent to the vein, for an inch or more above and below the communicating aperture, that it cannot be separated by dissection, and the vein is greatly exposed to injury from the passage of the needle. Lastly, this very condition of the artery predisposes to secondary hæmorrhage; and it is a practical fact that this calamitous occurrence very often happens after this operation.

This concludes our account of the work before us. The length of that account is an evidence of the favourable opinion we entertain of Mr. Porter's observations. There is much originality in many of them, and all possess a practical value. And if we conceive that Mr. Porter is apt to look too earnestly upon exceptions, and over-rate their importance, we may possibly do him an injustice.

THE PRINCIPLES AND PRACTICE OF OBSTETRIC MEDICINE AND SURGERY, IN REFERENCE TO THE PROCESS OF PARTURITION. By *F. H. Ramsbotham*, M.D., &c. 8vo. pp. 672. Churchill, 1841.

THIS work first appeared as an *Atlas of Plates*, of which we made favourable mention in our No. of April, 1840. Fortunately for the medical student Dr. Ramsbotham was subsequently induced to extend it into the form of a treatise, and the work, as it now appears, may be considerod as one of the most useful treatises, taken together with the very superior illustrative plates, of obstetric medicine and surgery that we possess. In his preface, Dr. R. says, "this branch of physic, indeed, has struggled against far greater difficulties than have beset the general practice of medicine and surgery; for both ignorance and prejudice have lent their aid towards retarding its advancement. On the one hand it has had to contend with the natural prejudices that females themselves must entertain against admitting a person of the opposite sex to undertake the duties required under the trying time of labor; and on the other, with the erroneous belief that parturition, being a natural action, would be accomplished in woman with equal facility and safety as in the brute creation."

The continental universities took the lead in enrolling *midwifery*, as it is called, among their obligatory studies; and most of the British institutions of a like nature have tardily followed in their steps.

As far as the London corporations are concerned, much may be attributed to the exertions of a society established in 1825, under the title of the Obstetric Society of London. This society consisted of about thirty members, embracing, with the exception of two or three, all the then present and late lecturers on obstetric medicine in London, besides a few other practitioners; and the editor of this work acted as honorary secretary. The object of the society was to place the practice of obstetric medicine on a more respectable footing than it had hitherto enjoyed.

We well remember the exertions of the hon. secretary of that society—who, after eulogising the conduct of Sir R. Peel—then at the head of the Home Office, goes on to say—

> "All the objects which the society proposed have since been carried into effect, except the change in the constitution of the council of the College of Surgeons; and thus, to the perseverance of a very few members of the profession may justly be attributed the adoption of measures fraught with the highest possible advantage to the community, inasmuch as they tend to enhance the acquirements of the great mass of English practitioners." 3.

Our author insists most pointedly and properly on the necessity of having a perfect knowledge of all the female parts concerned in the generative process to be enabled to understand the mechanism of parturition, and first speaks of the bony structure to which the soft parts are attached, and of the origin of the term pelvis, from its resemblance to a wooden utensil of the bowl form, πέλυξ, used by the Greeks; and described in many of the older anatomical works as the basin.

On the individual bones composing the pelvis we need not here descant, we shall only particularize such parts of each as may be more important to the obstetrician. At the junction between the ilium and sacrum is interposed a piece of fibro-cartilage, about a sixth or eighth of an inch in thickness, so that the bones are separated to that extent; and it is invariably remarked, provided the joint is healthy, that, when the ligaments are cut, and the two bones forcibly wrenched asunder after death, the cartilage adheres to the sacrum, leaving the ilium denuded. In structure it is more like the intervertebral substance than any other tissue of the body: it is arranged in concentric layers, and is softer towards its posterior edge than in the front. The object of this soft elastic pad being situated in this place is evidently to break the shock, and prevent the jarring sensation which must otherwise have been experienced, in the violent actions of the body, such as running and leaping; and it may also act as a cement in glueing these bones together.

The spinous process of the ischium is an object of more intense interest to the obstetrician than its small size would lead us to suppose; because it is sometimes of undue length, or is bent too much inwardly. By such a construction, the capacity of the outlet is materially encroached upon and diminished, and, in a proportionate degree, the passage of a child's head in labour is retarded.

The pubic bones are not in contact at the symphysis; for there is a considerable thickness of the same kind of cartilaginous matter placed between them as is found at the sacro-iliac symphyses. Some anatomists have affirmed that there is a double joint, one on each side of the central cartilage; others, that there is only one; and others, again, that although occasionally an imperfect synovial membrane may be seen, by far most frequently, neither can a cavity be detected, nor any apparatus indicative of the presence of a joint: and this latter seems to be the idea of the best anatomists of the present day. The late Mr. Joshua Brooks says he never saw an anchylosis formed between these two bones.

> "The coccygeal joints are of great value in the process of labour. Their mobility much facilitates the exit of the head, by enlarging the outlet of the pelvis in the antero-posterior direction. The increase of space thus gained amounts to an inch or more; for the point of the bone may be bent backwards to a line continuous with the sacrum, or even beyond, so as to form an angle outwards.
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> Occasionally, indeed, the coxyx becomes anchylosed to the sacrum, and its own joints also are destroyed by a deposition of osseous matter between the separate pieces, so that their mobility is lost, and the bone becomes, as it were, a portion of the sacrum itself. Such a consolidation must offer a considerable impediment to the expulsion of the head, by contracting the pelvic outlet: and this, though a rare, is therefore another cause of lingering labour. It is most usually met with in women bearing a first child late in life, and those who have been accustomed to sit through the principal part of the day." 20.

When the coccyx is in this state, it will sometimes break; either during the expulsive efforts of natural labour—or from the employment of instruments. Dr. R. says, where the bone broke or the anchylosed joint gave way—no permanent injury ensued. We have now and then witnessed considerable subsequent suffering where the junction of the bones formed an angle.

Form and Dimensions of the Pelvis.—When we examine the pelvis in reference to labour, these are of considerable importance to be attended to.

We observe that it is formed on the principle of the double arch, which structure in architecture possesses the greatest possible degree of firmness that can be devised for the quantity of material employed. So that the pelvis combines, to an eminent extent, the qualities of strength and lightness. Obstetrically it is divided into the *brim*, or superior aperture; the *outlet*, or inferior aperture; and the *cavity*, all that is embraced between these two.

The pelvis itself has two axis, one of the brim, which is downwards and backwards, following a direction from the umbilicus to the coxygeal extremity of the spinal column; and the other of the outlet, which is downwards and forwards, from the promontory of the sacrum to the central space between the tuberosities of the ischia: so that a line drawn through the brim, in the direction of the axis of the brim, would cross, at a considerable angle, another line drawn in the direction of the axis of the outlet.

It is of most essential importance to keep strictly in mind the relation which the *two axes of the brim and outlet* bear to each other; when performing the most simple or complicated obstetrical operation from the mere extraction of the placenta to delivery with the forceps.

Separation of the joints of the pelvis during labour may possibly take place in the lower animals, but it is certainly not usually the case in the human subject.

Fœtal Head.—Its shape and dimensions are well delineated—and the necessity for learning the situation of the fontanelles and sutures. An accurate knowledge of the form and situation of these fontanelles is of absolute necessity for the successful practice of the obstetric art; for by them we detect the position of the fœtal head in the early stage of labour. The account of the advantages of the peculiar structure of the fœtal head, would be well worth the perusal of the too great admirers of instruments, pages 34, 35.

Of Deformed Pelvis.—The want of due capacity sometimes originates in natural formation; thus a woman of short stature, although of tolerable symmetry, might be expected to possess a diminutive pelvis; but this is far from being an universal, or even general remark. Again, the re-union of the bones after fractures will commonly occasion both distortion and contraction of space; but when there exists a deficiency of room to any great extent, the irregularity is mostly dependent on disease of the bones themselves.

"If we look at the head of the child, and the cavity through which it has to traverse, in a mechanical point of view, (which we must do before we can arrive at a correct knowledge of the process of parturition, even in the simplest and most easy state.) we shall immediately perceive that *size*, as regards the head and the pelvis, is entirely a relative term: and that a pelvis preternaturally small, or a head unusually large, will each in practice occasion dfficulty in the same degree as they deviate from the standard dimensions; so that it matters little whether the disproportion be the consequnce of diseased action or any other cause; provided it exists, to a certain extent, it must necessarily be productive of a protracted struggle." 37.

There are two diseases particularly, through which the pelvis suffers considerable deterioration in size, rachitis or rickets, a disorder of childhood—and mollities ossium or malacostion, one of adult age. In both these affections there is a want of due solidity in the osseous system throughout the body.

"Deformity may be partial or general,—partial when either of the parts, the brim, cavity, or outlet, is simply the subject of derangement,—general, when all these are more or less involved. If the vicious formation be confined to the brim, the diminution in size is almost always produced by the promontory of the sacrum jutting too far forwards, and by this means contracting the conjugate diameter; if to the cavity, by the sacrum being too straight, so that the bone does not possess its due curvature; if to the outlet, by the tuberosities of the ischia approaching too near each other; or by the spinous process of the same bones being too long, and directed too much inwards: or again, by the joints of the coxyx having become anchylosed, and having thus lost their mobility. Of these irregularities the most frequent is that met with at the brim; the most rare, an undue straightness of the sacrum." 38.

There is a variety of deformity of which Dr. R. has given a plate from the work of M. Moreau, which much resembles the obliqely contracted pelvis described by Professor Naegele, which he says is a pelvis contracted in the direction of one of its oblique diameters, with complete anchylosis of the sacro-iliac symphysis of one side and imperfect formation of the sacrum and os innominatum of that side. This deformity M. Naegele considers to be of congenital malformation, and not the result of disease: but we agree with the reviewer in the British and Foreign Medical Review and Dr. Rigby, that the professor is not quite borne out in his opinion.

On the inutility of pelvimeters we are quite in accordance with our author—and that it is impossible to detect any deformity of the cavity with them—and therefore the hand is the most applicable for the purpose of taking the internal measurement of the pelvis, the mode of performing which he well describes.

It does not necessarily follow that the pelvis should be distorted—even where considerable curvature of the spine exists—and as a general rule it may be observed, that where the curvature of the spine occurred subsequent to the age of puberty, the pelvis is for the most part unaffected; and, on the contrary, where the curvature of the spine took place during infancy, the pelvis is, for the most part, proportionably affected. It is by internal examination alone that a decided opinion can be given to the state of the passage.

A *preternaturally* large pelvis appears to be by no means of advantage—it fails to give the proper support under many circumstances during pregnancy. From the necessarily great influence this formation of the pelvis has on the process of labour, the whole of the chapter descriptive of it is most worthy the attentive study of the practitioner.

The female generative organs are classed in two divisions—external and internal.

The external organs need not detain us long. In speaking of the fossa navicularis or concha, Dr. R. says, it contains within its precints the clitoris within its prepuce, the nymphæ, the vestibule, and the meatus urinarius. It seems to us better to confine things to their right names and places, and simply say it formed betwixt the proper orifice of the vagina or (hymen) and fourchette, or joining of the labia at their lower edge.*

On the meatus urinarius, which is a part of essential importance to be well acquainted with, the natural delicacy of females not allowing of an ocular perception of the part, our author is much too superficial—neither does he describe the mode of passing the catheter—which we think ought to be done, as miserable effects have we often witnessed from the want of this knowledge; and he justly observes, "it is infinitely better to expose the patient to the inconvenience of an ocular inspection than to allow the bladder to become over-charged, to the imminent risk of its bursting, or to the no less probable chance of a fistulous orifice being formed between its neck and the vagina."

Of the internal organs—the vagina, the uterus and its appendages, are well described.

Corpus Luteum.—"In the ovary of a woman recently pregnant, we observe, besides these vesicles, a vascular spot about the size of a large pea or small bean, containing a central cavity, cometimes empty, at others filled with coagula, the cosequence of the late conception. It is somewhat fabiform, of a dull yellow tint, resembling in hue the buffy coat of blood, and when newly exposed, slight red. The name CORPUS LUTEUM was given to it by Malpighi, from its colour; it had been previously called by De Graaf CORPUS GLANDULOSUM, for it possesses much of a gland-like appearance. Hunter, indeed, describes it as 'tender and friable, like glandular flesh.' Rœderer compares its structure to that of the supra-renal capsules of the fœtus; and Montgomery speaks of it as 'obviously and strikingly glandular.' Corresponding with its situation externally there is observable a distinct cicatrix on the surface of the ovary, indicating the spot through which the fluid contained in the Graafian vesicle has escaped into the Fallopian tube. The aperture has, in some rare instances, been found still pervious, when the conception was very recent." 66.

The corpus luteum will present different appearances according to the length of time that has elapsed since impregnation. The period of its visibility varies also considerably according to circumstances. Montgomery has found the central cavity existing in the sixth month from impregnation; and the corpus luteum distinguishable at the end of five months from the mature delivery, but never beyond that time. From the observations of Dr. Paterson, indeed, (Edin, Med. Journal, Jan. 1840,) it would appear that positive evidence of the existence of this body is rarely met with, even three or four months after labour; so that the common idea that this is a permanent structure, and that an examination of the ovaries after death will enable us to tell the exact number of children which any woman has borne, from the number of corpora lutea existing in her ovaries, is quite erroneous.

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*See Bell's Anatomy, Vol. III.

Of the mode of its formation physiologists are not quite agreed. Dr. Ramsbotham coincides in opinion with Drs. Montgomery and Paterson in preference to Professor Baer and Dr. R. Lee, whose paper, in the 22nd Vol. of the Medico-Chirurgical Transactions, is very clear and distinct.

> "*False Corpora Lutea.*—The remark of Haller, that '*conception never happens without the production of a corpus luteum*,' has, I believe, never been disputed; but his other proposition, that '*the corpus luteum is never found in virgin animals, but is the effect of impregnation alone*,' has been canvassed very extensively. Some physiologists have supposed that true corpora lutea, or bodies analogous in appearance to them, can be formed in the ovaries of virgins; while others have expressed themselves so vaguely on the subject, as to leave their opinions in great doubt. The possibility of such an occurrence is a question of first-rate importance in many medico-legal investigations; and consequently it is incumbent on every one who touches upon this subject to endeavour to put it in a clear light." 68.

The whole of the evidences on this point are worthy the most attentive perusal. "In advanced life, the ovaries become shrivelled, corrugated on their surface, firmer in their texture, and often contain empty collapsed cysts, with thickened, opake coats, so strong that they can be turned out of their bed entire. These have been mistaken for, and described as, corpora lutea; but after the account already given, it must be evident that such is not the case. There is little doubt that they are Graafian vesicles altered by age."

Although the ovaries are usually described as appendages to the uterus, the uterus ought in truth to be considered as an appendage to them, for they are the most essential organs in the function of generation. The uterus may be diseased to a great extent, and yet the woman may be fruitful; but if both these glands are much altered in structure, barrenness necessarily ensues. An ovary, indeed, or something analogous to it, is found throughout the whole of the sexual genera of both animals and plants.

For the uterus, with its well-delineated nerves, blood-vessels, &c. of which we may speak hereafter, we must refer to the work itself.

The muscles within the pelvis deserve notice; for, by being pressed on during the escape of the child's head, they are sometimes strained, and pain is experienced in moving the thigh, and in evacuating the rectum, for some days subsequent to labour.

The Fallopian tubes, through which the ovum after impregnation passes into the uterine cavity, are covered externally by the peritoneum, possess a middle coat of muscular fibres which run longitudinally, transversely and obliquely (?), and an internal mucous coat, a continuation of the mucous membrane lining the uterus. It is the only instance in the body where a mucous membrane and a serous membrane join by continuation of structure, the only example of mucous membrane terminating in a shut cavity.

Analogy of the Genital Organs in the two Sexes.—Although the organs of generation appear to be widely different in the two sexes, and indeed give them their distinctive characters; yet there is seen, on closely comparing

comparing them, a great similarity, not only in function, but even in formation; so that we cannot withhold our belief that they have both been fashioned on a common model. In many instances the confusion arising from this similitude is so remarkable, that it is difficult to decide, particularly in infancy, to which sex the individual belongs.

OF THE GRAVID UTERUS.

When we compare the unimpregnated with the gravid uterus at the end of gestation, we should be inclined to doubt—from the extraordinary alteration that has taken place during pregnancy—whether in reality they were not two perfectly distinct organs. We observe an amazing difference, indeed, in every essential attribute, particularly in *form, size, situation, texture, power,* and *contents.*

The alteration in SIZE is most remarkable; the virgin uterus measures not more than three inches in length, and two in breadth; when labour is near at hand, it is about thirteen inches long, and eight or nine across.

The TEXTURE of the unimpregnated uterus is close, tough, firm, and inelastic; the structure of the organ when gravid is loose, spongy, and distensible, capable of being drawn out to a considerable extent between the fingers without laceration of its substance. The looseness of its texture depends chiefly on the enormously increased size which its vessels have acquired during the development of the organ.

We believe that a great deal of misconception exists as to the thickness of the gravid uterus in very spare women. The limbs of the fœtus may be grasped with the hand through the abdominal parietes and the uterus, and in a patient under these circumstances, where the labour happens to be protracted and difficult, and the presentation is so far distant as not to be felt at all, or felt with extreme difficulty, the hand or foot has been grasped so distinctly as to convey the idea to the practitioner of the fœtus being extra-uterine or of rupture of the uterus having taken place, the labour eventually having terminated naturally, and well in every respect.

"The section of the unimpregnated uterus displays an unoccupied cavity, communicating by an open mouth with the vagina below, having, therefore, properly speaking, no CONTENTS; while the gravid contains the *membrana decidua,* and the *ovum;* which latter consists of the *chorion,* the *amnion,* the *liquor amnii,* the *placenta,* the *funis umbilicalis,* the *fœtus,* and, in an early stage of pregnancy, the *vesicula umbilicalis.*

On opening the gravid uterus, besides the spongy character of its structure just adverted to, and the large size of its vessels, (which have acquired such a magnitude, that the veins have the term sinuses applied to them,) its thickness must necessarily become an object of observation. This varies considerably in different individuals; the substance is generally rather thicker than in the unimpregnated state; and in all instances the fibres are more apparent." 81.

Membrana Decidua or Caduca.—These names were given to the membrane by Dr. Hunter (who was the first to demonstrate its two laminæ) in consequence of its being shed from the uterus after labour, with other discharges. He also called the outer layer the *decidua vera,* and the inner *decidua reflexa.* We prefer the terms employed by Dr. R. Lee, *decidua uteri* and *decidua ovuli;* because their adoption merely describes the situation and connexion of the two laminæ, and does not involve any theory as to the formation of the inner layer, about which there is still considerable doubt. Of late it has been described by Chaussier under the title *epichorion*, from επι, above, and χωριον the external ovular membrane; by Dutrochet, *epione*, from επι, and ωὸν, the ovum: by Breschet, *perione*, from περι, around, and ωὸν: and by Velpeau, *anhiste*, from ἀ, priv, and ιστος, a web. Velpeau uses this term to signify an inorganic substance, since he denies the organization of the membrane at any period of pregnancy.

The deciduous membrane is divisible into two layers, both together being not thicker than the nail, and is flocculent on that face which is attached to the uterus, smooth and plane on the one next the ovum; so glossy, indeed, that it might be supposed to possess serous properties.

In the early part of pregnancy, the two layers are separated from each other, especially towards the fundus uteri, by a quantity of red coloured fluid, partly serous, and partly half coagulated, to which Breschet, who designates it sero-albuminous, has given the name hydroperione. As gestation advances, this fluid is gradually absorbed, and the two laminæ come into close contact at every point, except where the placenta intervenes between them. This membrane is a product of the uterus, and does not originate in the ovum.

HUNTER called the internal layer the decidua reflexa. Its value appears to be principally if not entirely confined to the first five weeks of pregnancy.

It is subservient both to the nutrition of the embryo, and to the preservation of its vitality; and thus, before the elaboration of the placenta, it seems to perform for the new being, functions analogous to those which, in an after stage, are carried on by the placenta itself.

Chorion—is a constituent part of the ovum from the remotest period of conception, because in extra-uterine pregnancy we find it, not in the uterus, as the deciduous membrane is, but enclosing the embryo itself. It possesses no blood-vessels evident to the naked eye: but we cannot deny its vascularity, since it is subject to disease, and in many of the mammalia may be readily injected.

Within the chorion is the amnion, another very thin, transparent, and tough membrane, in structure and appearance so similar to the chorion, that it is almost impossible to distinguish the one from the other. It is destitute of coloured vessels, but it, too, must possess vascularity; because, like its twin sister, it becomes thickened by disease, and because it enjoys in an eminent degree the power of secretion. Its use is exactly analogous to that of the chorion, so far as affording a covering to the ovum is concerned; but it performs an additional distinct function in the secretion of the liquor amnii.

The relative proportions between the quantity of liquor amnii and the size of the embryo differs much at different stages of pregnancy, being considerably greater in the earlier periods, and less at the advanced stage. Thus, when the embryo is scarcely visible to the naked eye, there is from half a drachm to a drachm of water collected within the membranes.

The origin of this fluid, liquor amnii, has given rise to much controversy. It is now generally regarded as a secretion or exudation from the inner surface of the amnion, supplied by innumerable colourless vessels, which ramify on that membrane.

Placenta.—Of the fœtal appendages—all of them highly essential towards the well-being of the ovum, either at the early or more advanced period of intra-uterine life—the placenta is perhaps the most important;—the medium of communication between the mother and her infant;—the organ through whose means life is sustained, nourishment supplied, and growth perfected.

> "*Twin Placentæ.*—In plural gestation a separate placenta, a separate funis, a distinct set of fœtal membranes, and a distinct quantity of liquor amnii, are formed for each child. The placentæ are commonly joined together at their edge, and when regarded on the maternal face, they have the appearance of a single organ. But the vessels of the one do not anastomose with those of the other;—the circulations are perfectly independent; so that the blood of one child does not pass into the system of its brother. One of the twins may, therefore, still live after the other has died;—one may be healthy while the other is the subject of disease.
>
> It occasionally happens, indeed, that a communication exists between the vascular systems of the two children, though they are both enveloped in separate membranes; and it has been also, though very seldom, remarked, that both were wrapped up in the same bag of membranes; and that the funis, having arisen by one branch from the single placenta, has split into two divisions to supply each fœtus." 94.

That the same set of fœtal membranes envelops twins we believe is more frequently the case than our author considers, and this circumstance has more recently been remarked in cases by Mr. Gregory Smith, Dr. Henry Davies, and Mr. Dodd, of Northampton; yet in each and all of these cases the vascular circulation of each fœtus was perfectly distinct and independent of each other.*

Battledore placenta, or where the umbilical cord passes into the placenta at the edge; or where the vessels divide into a number of branches before they arrive at the substance of the mass, is of importance in practice.

The funis umbilicus, umbilical cord, or navel string, varies much in length; in some instances not exceeding six or seven inches; in others being more than five feet. Its average length may be regarded as from eighteen to twenty-four inches. It varies also in thickness, and this depends on the larger or smaller quantity of a viscid semi-transparent gelatinous matter,—the gelatine of Wharton—contained in cells, which constitutes the principal part of the thickness of the cord. These cells do not communicate with each other freely.

The funis gives a passage to three blood-vessels—two umbilical arteries and one umbilical vein. The arteries are longer than the vein, being considerably more tortuous; and they generally continue their course in a spiral direction, running round the vein; in the majority of cases being twisted from the left to the right.

The vein is much greater in its calibre than the two arteries together; but as the latter vessels are perhaps twice the length of the vein or more, the quantity of blood actually contained in the two arteries at one time may be nearly the same as in the vein.

The vein possesses no valves; and the arteries do not communicate with each other until they reach the placenta; when one generally sends off a large transverse branch to the other. The arteries carry adulterated blood from the body of the fœtus to the placenta, and have a very strong pulsation; the vein carries back again to the fœtus, pure blood imbued with the principles of both vitality and nourishment. In some respects, then, these canals may be likened to the pulmonary vessel; but the umbilical vein, by transmitting the means of growth, as well as of the continuance of vitality, performs an office superior in value to the pulmonary veins, which give passage to fluid fraught with the principles of life alone.

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* See Medical Gazette, May, 1841.

When the embryo is first visible, in the earlier weeks of utero-gestation, we see nothing like a funis umbilicalis; but the newly-formed being is attached by its abdomen directly to the amnion.

Urachus.—In the quadruped, besides the blood-vessels, there is another pervious duct running along the funis, called the Urachus. In the human subject there is no duct; but an impervious cord runs up from the fundus of the bladder, and is lost at the umbilicus.

The *Vesicula Umbilicalis*, or *Vesicula Alba*, constitutes also a part of the ovum in its early stage. It is a small sac, not larger at its greatest magnitude than a pea or swan-shot, situated between the amnion and chorion, possessing a pellucid coat, and enclosing a small quantity of viscid transparent fluid, whitish, or more generally rather of an amber colour.

The Fœtus.—At the end of gestation the fœtus ordinarily measures about twenty inches from the crown of the head to the heel, and weighs nearly seven pounds: but there is an amazing difference in both these respects, very easily explained. Generally speaking, males weigh more than females by one or two ounces, and are longer by a third or half an inch. Some children at full time have been known to weigh even less than five pounds; while many cases are on record where the weight exceeded double the average. Some to the extent of nearly eighteen pounds, of which weight we have seen one.

The position of the fœtus is well described and depicted.

Development of the Uterus.—The uterus is constantly enlarging during the whole term of gestation, and its increase corresponds with that of the ovum; so that its growth towards the close of pregnancy is comparatively greater from week to week than at any other period. The fundus and body are first evolved: and the neck does not begin to expand until five full months have passed.

The parietes do not become thinner as the uterus grows, but in many instances absolutely thicker. They are not distended by their contents as a bladder might be blown up; and the cavity is never so completely filled, but that it would hold somewhat more than it contains. The enlargement is dependent on a process of healthy evolution.

"Great as is the increase of the womb in its general bulk, the blood-vessels undergo an enlargement even far more considerable in proportion: and this is explained by the fact that they have not only to nourish the parietes, but also to supply the wants of the growing fœtus. It is this circumstance which renders the texture of the gravid womb so loose and ductile : and the amazing diameter they have acquired before labour commences, most readily accounts for the violent hemorrhages that not unfrequently attend on parturition.

This alteration in the size of the blood-vessels mainly contributes to the increase of the uterine parietes; there is nevertheless an additional quantity of both cellular and fibrous matter secreted, as the evolution proceeds. The nerves and absorbents also partake of the general enlargement; though not to so great a degree as the blood-vessels." 104.

Dr. Robert Lee in his anatomy of the nerves of the uterus remarks, Dr. William Hunter was the first anatomist who examined the nerves of the gravid uterus, and who says, I cannot take upon me to say—what change happens to the system of uterine nerves from utero-gestation, but I suspect them to be enlarged in some proportion, as the vessels are. Mr. J. Hunter who denies that the nerves of the uterus increase in the smallest degree during pregnancy, has left no preparations to demonstrate the accuracy of his statement—thinks that the intense pain and violent periodical contractions do not depend on the nerves, but on some incomprehensible vis insita on the organ. Dr. R. Lee, after quoting his own excellent dissections so well portrayed in his plates, says, these dissections prove that the human unimpregnated uterus possesses a great system of nerves, which enlarges with the coats, blood-vessels, and absorbents during pregnancy, and which returns after parturition to its original condition before conception takes place. It is chiefly by the influence of these nerves, that the uterus performs the varied functions of menstruation conception, and parturition, and it is solely by their means that the whole fabric of the nervous system sympathises with the different morbid affections of the uterus. If these nerves of the uterus could not be demonstrated to exist, its physiology and pathology would be completely inexplicable

Dr. Ramsbotham describes well the alteration in the relative situation of the uterus,* both with respect to itself and its peritoneum, on the adjacent parts, and says the peritoneal covering is of necessity greatly extended in surface; and this depends partly on the formation of new membrane, a fresh secretion,—partly on its allowing itself to be stretched out in every direction, (for it is highly elastic, as is shown in the variations of contraction and distention which the stomach, intestines, and bladder, are constantly undergoing, and in the descent of that portion of the membrane which constitutes the sac in hernia;)—and partly on the layers of the broad ligaments splitting, and receiving the sides of the uterus between their folds; and plates 19, 30, 31, and 32 are excellent.

LABOUR OR PARTURITION.

These simple terms designate a very complicated process, embracing the dilatation of the passages, as well as the expulsion of the ovum.

The principal agent in labour is the uterus itself: but it is much assisted in its action by the contraction of the abdominal muscles, and probably also of the diaphragm.

Under labour the fœtus is perfectly passive: so that a dead child is expelled, generally speaking nearly with the same ease as a living one.

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*This is well portrayed in Meygner's plates.

The action of the uterus is perfectly involuntary, and consists in a contraction of the fibres embedded in its structure, which indeed form its peculiar parenchyma.

But the auxiliary muscles which assist the uterus in its contractions are in a great degree voluntary; so that labour may be said to consist of a mixed action; partly of a voluntary, but principally of an involuntary character: for the aid which the woman contributes by the exertion of her own will is not to be compared to the propelling power of the uterus, which is entirely independent of her control.

The *general features* of labour are the same in all cases, but there is an infinite diversity in the details.

After enumerating the symptoms of labour, Dr. R. says,—But of all the symptoms announcing the access of labour, pain is the most prominent.

Pain has three sources—one dependent on the simple action which, like the spasmodic contraction of muscles, is attended with suffering—another, that of opposed propulsion—and the third, that of distention of the passages.

False pains are asserted to be more frequently met with in primary pregnancies than afterwards—our own experience would lead us to doubt this, and among the causes of false pains we think might be added the gravitation of the uterus into the brim of the pelvis—where it gets jammed or wedged as it were.

Many a day and night have been spent in anxious watching over a patient, to the great inconvenience of the practitioner, to the destruction of his rest and health, and perhaps to the detriment of his professional character, when there was not the slightest necessity for such close attendance, simply because the patient would not acquiesce in the requisite examination being made.

We should say that no practitioner should remain with a patient under these circumstances—he should state to her firmly and civilly that an examination is important, either for her comfort, that he may be enabled to assure her that appearances are all favourable,—or in the event of there being anything untoward in the case requiring assistance (as preternatural presentation of the upper extremity)—that he may be prepared to give it his immediate attention—should the patient then not submit to the necessary examination, he should, with all the kind consideration a patient so situated is entitled to, say that, as she is not sufficiently ill to require his attendance, he will go home, or to visit his other patients, as the case may be, and will return to her when sent for; for, by remaining with the patient he becomes responsible for the well-conducting of the case, and how can he do so in one of the progress of which he knows nothing about. If our memory fails not, the late Dr. Rigby, in his work on uterine hæmorrhage, mentions the case of a patient who would not admit of interference till it was too late to turn the fœtus with advantage, and she died.

Classification.—For practical purposes labours may be conveniently divided into—1st. *Natural.*—2nd. *Difficult.*—3rd. *Preternatural*—4th. *Complex.*

We believe, for all practical purposes, this division is one of the best that can be made. Dr. R. enters very largely into the consideration of the division made by other authors, to which we refer the reader.

Labour is described as consisting of three stages: the first terminating with the opening of the os uteri to its full extent, the rupture of the membranes, and the evacuation of the liquor amnii; the second, with the birth of the fœtus; and the third with the expulsion of the placenta. We might with some show of reason add a fourth stage, considering that to end with the complete closure of the uterine vessels, and the stoppage of every chance of hæmorrhage: but as this last might continue throughout the whole puerperal month, or longer, it may be as well to follow the more ordinary usage, and to regard labour as terminated on the removal of the placenta.

Much knowledge must be acquired during the first vaginal examination: it is, first, whether the woman be pregnant; secondly, if she be in labour; thirdly, whether the membranes have ruptured, or are still entire; fourthly, how the child is presenting; fifthly, how far the labour is advanced; and sixthly, the state of the os uteri, vagina, and perineum, in regard to their distensibility; we might add seventhly, the dimensions of the pelvis.

> "The object of covering the finger with some oily substance before making an examination, is two-fold: partly because the lubrication assists its introduction, but partly also to diminish the chance of inoculation with morbid matter, should the patient be labouring under any venereal affection. Three of my intimate medical friends have suffered most severely from secondary symptoms of syphilis communicated in this manner; and five different midwives of the Royal Maternity Charity have been the subjects of the same disease, contracted through an abrasion of the cuticle, while in attendance on women in labour. These are grievous accidents, and no means should be left unused, by which such a serious consequence may be avoided. If, unfortunately, a suspicious-looking sore should make its appearance on the finger, all obstetric duties must be abandoned until after it is healed; for another woman may be infected from the contact of an open chancre on the hand of the medical practitioner." 157.

We recommend this note to attentive observation.

With regard to aperiants after delivery, we have deemed it preferable to direct an enema to be administered in due time after the *second dose*—as where a repetition of doses has been persevered in, injurious purgation has often been the result; but we must not be understood as by any means allowing an enema to supersede the exhibition of an aperient.

We strongly recommend this division of symptoms—progress, mechanism, management, and after-treatment of natural labour to the attentive perusal of the student in particular; for, without an accurate knowledge of all the circumstances connected with that state, no man can practice with comfort to himself or benefit to his patient, neither can he be adequate to the management of any untoward case that may come under his care. For this reason, also, we consider that to practice well in particular or difficult cases, a man should be an universal practitioner in midwifery.

Difficult Labour.—The second class of labours, DIFFICULT or LABORIOUS, embraces two orders, *lingering* and *instrumental.*

We sometimes hear of a woman being in uninterrupted labour a week, ten days, a fortnight, or even longer. Such an idea is perfectly absurd;

the powers of the system could not bear up against the exertion of labour for so protracted a period.

Such cases, then, of reputed prolonged parturition, are dependent on false, irritable, spasmodic pains, situated in some other part of the body; by which, as we have already learned, women are frequently harassed towards the close of gestation; but which are perfectly unconnected with, and independent of, contraction in the uterine fibres.

In estimating lingering labours, we calculate from the first commencement of true uterine action; but in estimating the length of labour, in reference to the patient's strength, and its effects on her system, we principally take into consideration the time that has elapsed since the membranes broke; for it is reasonable to infer that no great exertion has been sustained—consequently that little or no exhaustion has appeared; and particularly, that scarce any injurious pressure can have taken place on the soft parts within the pelvis, while the membranous cyst remained entire; provided there be an ordinary quantity of liquor amnii.

Insufficient Uterine Action.—After speaking of different means applicable for rousing the uterine energies, Dr. R. goes on to say:—

"Various specific medicines have been recommended at different times, to increase the parturient throes, and facilitate the child's birth; but I believe that the whole of these substances, one only excepted, act upon the womb through the excitement induced in the arterial system. These first stimulate the nervous, then the arterial, and through the medium of those systems, the uterus. Almost the only medicine now used as an uterine excitant, is the *ergot of rye:* and I have no hesitation in declaring my opinion that its action is specific, and that the uterus is not affected through any disturbance first set up in the arterial system." 217.

"This drug has been exhibited in various forms, chiefly in powder, infusion, decoction and tincture. The two first are in my opinion the best modes. If given in fine powder, about twenty grains is the proper dose; but I am myself generally in the habit of exhibiting it in infusion. Two drachms may be infused in four or six ounces of boiling water for twenty minutes; a fourth part of the strained liquor should be given at a time, and under labour the dose may be repeated every quarter of an hour, until either its action becomes apparent, or the whole is taken: for I consider it useless to persevere with the medicine, if the quantity mentioned produces no effect. I have found that if the infusion be allowed to stand much longer than the time I have specified, it acquires a nauseating property, which greatly distresses the stomach. Desgranges used only the black cortical part, in which he considered its active principle to reside: he gave it in doses of four or six grains, which he found as efficacious as thirty grains of the whole powder. Villeneuve administered it in *lavements;* and he considers this the most efficacious means of employing it, provided there be present much irritability of the stomach." 219.

Dr. R. is not aware of the ergot ever having produced any pernicious effect on the system, and some individuals are not affected at all by it. Its effects upon the uterus in labour are often speedy, powerful, and astonishing. Its action mostly commences within fifteen or twenty minutes after its exhibition, and the character of the pains is peculiar. When the ergot has obtained a full power over the system, the uterus often acts without any decided intermission for many minutes together; there being only a slight remission observed—no interval of perfect ease.

As the ergot undoubtedly possesses such a strong influence over the uterine system, it is evident that, if exhibited improperly, it is likely to do great injury.

It ought never to be exhibited where there exists any disproportion between the fœtal head and pelvic cavity. Where there is any rigidity of the parts, or in malposition of the head, or in preternatural presentation, or in first children generally.

"It must only be given in cases where the sole cause of delay is a torpid or feeble state of uterine action: or where it is desirable to terminate the labour speedily,—and that too by means of the natural powers, in consequence of hæmorrhage. I have found it very useful in accidental hæmorrhage after the membranes have been ruptured; in loss of blood under abortion also, where it was impossible to empty the uterus by manual operation; and where the patient would perhaps have sunk from the continuance of the bleeding."

We cannot conclude the remarks on the exhibition of the ergot of rye without entering our most solemn protest against its abuse; miserable are the effects we have witnessed from its mal-administration, and that when given by individuals in extensive practice. We earnestly recommend the perusal of the cautions laid dow so well by Dr. Ramsbotham, and we implore every practitioner to consider well on the case and of the effects of the medicine before he exhibits it. We have little hesitation in saying, after a pretty extensive experience both in private practice and in public institutions—that more harm than good has been done by the ergot. And as to its superseding the judicious application of the forceps except in cases of simple arrest from defect of pain, we believe it quite out of the question. We nevertheless consider the ergot of rye a most useful and powerful agent in very many cases, when used with due consideration and caution.

Among other adjuvants in lingering labour, Dr. R. recommends—stimulating enemas, warmth externally, also pressure and friction are found to possess greater power over the uterine fibres than warmth externally applied. The pressure of a bandage, or the hand, will often excite the uterus to increased action both before and after the birth of the child.

He also mentions the advantage of change of position, walking, &c., and of the possible utility of electrical shocks, and cautions against the early rupture of the membranes—or rubbing the os uteri.

The second cause of lingering labour embraces those cases in which the uterus is acting powerfully and energetically, but where there is a want of due and proportionate space in the passages for the ready exit of the child: and of these causes, *distortion of the pelvic bones*, as being one of the most frequent and difficult, claims our first attention.

Of the Cæsarian operation, he says, if performed at all, it ought to be performed early—and mentions the works of Mr. Barlow and the operation of Mr. Knowles. We think much useful information will be found in the work of Dr. Hull of Manchester.

We have never seen a case of distorted pelvis requiring this operation; nor, except in large manufacturing towns, where girls from their birth are distorted, we believe, in this country do such cases occur. The Doctor's remarks on this subject will be perused with advantage.

The second variety of lingering labour, or jammed head, will be noticed hereafter.

The third variety of lingering labour is the *presence of tumours* in the cavity of the pelvis. The tumours which may impede parturition vary exceedingly in their nature, consistency, and size; sometimes they possess the solidity of bone itself; at others, their contents are of the most fluid character. According to their size and unyielding nature, will be the difficulty which they occasion.

After mentioning exostoses, scirrhous or dropsical ovary, scirrhous glands, polypi, with their diagnosis and treatment, we come to descent of the bladder, which sometimes prolapses before the head.

Much embarrassment, and no small danger, may be the consequence of the case being overlooked or mistaken. This usually occurs in the early period of labour, before the head has engaged in the pelvic cavity, and depends on pressure exerted by the descending head upon the fundus, or middle portion of the organ, at a time when it is partially distended with urine.

The symptoms attendant on prolapsed bladder are very distressing; and are to be relieved by the introduction of the catheter. Our author adds—keeping in mind the possibility of the bladder being pressed downwards as described, it is an essential duty never to puncture any fluctuating pelvic tumor, without being first assured that it is not vesical, by the removal of the urine by means of the catheter.

A fourth cause of lingering labour consists in rigidity of the soft parts: under this head are some valuable remarks and details of some interesting cases. Where the rigidity is the result of disease, as common rigidity, independent of diseased structure, is more usually met with—we think it should have taken precedence. With regard to the utility of abstraction of blood and the administration of opiates in rigidity of the os uteri, we have found the combination of the two remedies very valuable; and, where it was of importance to produce the effect with as little loss of blood as could be to our patient, we have bled the patient while she is standing if possible, otherwise sitting upright—by this mode fainting is more speedily induced—this followed by the exhibition of a large dose of tinct. opii, (or an opiate enema as may be best suited to the case); by these means the parts become relaxed, and the pains completely suspended, and perhaps succeeded by some tranquil sleep, from which, when the patient arouses refreshed, the parts often give way readily to the renewed pains. We have found this practice eminently useful, in preternatural presentations of the upper extremities, combined with violent labour-pains, when it was extremely hazardous or impossible to turn; and also in cases where the secale cornutum had been injudiciously administered: for the most part, we prefer the opiate given by the mouth, as the administration itself of the enema excites local action, or the enema is not retained long enough to take effect.

Enemas of tobacco, common enemas, application of belladonna, muciluginous injections, warm bath, nauseating doses of antimony, emetics, are severally treated of. Meddlesome practice and other injudicious interference, and particularly the mal-administration of the ergot of rye, are strongly deprecated, and some additional milder means spoken of: one principal use, however, of these latter means is to gain time, so as to allow the natural powers an opportunity of exerting themselves efficiently, and at the same time to convince the woman that our mind is directed towards affording her relief, and thus, both hope and confidence are inspired; and perhaps greater advantage gained, than by any of the more positively useful attributes of these applications.

The observations on cicatrix of the vagina as a cause of lingering labour are worthy of attention.

Lingering Labour from Causes referible to the Ovum.—Preternatural toughness of the membranes is by no means a usual cause of lingering labour; it is by far more common for a premature rupture of the membranes to produce a protraction of the process. If, however, the membranes are exceedingly strong, as they occasionally are, with due caution and considerations which are laid down, they may be ruptured.

Head preternaturally enlarged from healthy formation, monstrosity, or disease, (particularly congenital hydrocephalus).—We most earnestly recommend to the attention of the reader the whole of this division of the causes of lingering labour, and also that caused by distended bladder. Most miserable have been the results that we have been witness of to patients under these circumstances, as rupture of the uterus—death immediately after delivery—or what is almost worse than death, a life of torment from sloughing of the parts, cysto-vaginal fistula, &c.—when we believe, in one and all the cases, the event might have been prevented by timely assistance; for in all these cases, we believe we are for the most part able to save our patients. We may therefore forcibly express, in the words of our author, with regard to enlarged head.

When we have ascertained that nature is unable to overcome the difficulty except at a great expenditure of power, conjoined with imminent risk to the woman's life, we are fully warranted in having recourse to perforation more early than if the child were healthy, that the fluid may be evacuated, and an opportunity afforded to the bones to collapse; the case will then most probably be terminated by the contractions of the uterus alone.

Instrumental Labour.—Although in skilful, and especially discriminating hands, obstetric instruments must be regarded as great blessings to the suffering sex, yet it is a question with some practical men, whether by their unnecessary and improper use they have not produced on the whole more injury than good. But we would endeavour deeply to impress upon the mind of the young practitioner that urgent necessity alone will warrant him in taking an obstetric instrument in hand: and that when a choice is allowed him, he should leave nature to accomplish her own purpose, provided, indeed, he can with safety trust her.

The whole of the directions as here laid down, are deserving of great attention. With regard to the position of the patient, it is of great importance to the success of the operation;—we have found it of great advantage, in order to keep the patient in the position directed, to have a female attendant set on the bed with her back close to the patient, and her feet towards or pressed against the opposite bed-post—this person may also separate the patients knees when required; the patient may pass her arms round her if she chooses: these arguments steady the patient well and preserve her from jerking away at the moment when it may be of considerable importance for the safety of the soft structures.

The variety of the form of the short forceps the practitioner may prefer (if judiciously used) is not of serious consideration. Our author remarks on the comparative safety of the one over the other; for our own part we prefer decidedly those, with a convex edge to each blade, of Osborn. The addition of a pin in the *middle* of the one handle, which is received into a deep groove of the other, and which keeps the handles in opposition while not acting during the intervals of pain, is an improvement. We have reason to believe that the forceps are still too frequently and injudiciously applied. Where the head is so jammed as to render the preservation of the infant's life impossible, we have no hesitation in saying, that the operation of craniotomy, horrible as it is, is the safer and more appropriate operation: for we would ask, what advantage is it to the patient, after all the suffering she has undergone, to have a dead child, with her parts contused (if not lacerated) and the consequence resulting from it. No practitioner with moderate care ought, by the operation of craniotomy, to inflict the least injury on the mother.

With regard to the time of using the short forceps in cases where they are required and applicable, we think it infinitely safer to apply them early than to procrastinate until the chance of preserving the infant is doubtful, and of the parts being contused certain. Dr. Hamilton (Practical Observations, Part II.) says, "cases requiring the use of the forceps occur so seldom when the first stage of labour is properly conducted, that, in the course of forty-eight years' practice, he has only had occasion to employ that instrument thirty-three times, where he had charge of patients from the beginning." He further says, no intelligent practitioner would wait in cases where the labour throes cease to have any influence in advancing the delivery, if the head of the infant be within reach of the forceps, till there be "heat or tenderness of the passages," and still less till "the patient's strength be exhausted." Again, the principle by which he has always been directed in cases of protracted labours, to which he has been called by other practitioners, has uniformly been to consider the state of the mother principally, but not exclusively. Thus, if immediate delivery be required, he always ascertains whether the use of the forceps be safe, for if there be any evidence that there has been injurious pressure upon the passages, he considers it to be unwarrantable to employ that instrument.

The extraordinary difference which prevails in the practice of obstetricians of different countries in the frequency of using the short forceps is forcibly pointed out in a paper by Dr. R. Lee, in the Medical Gazette, Vol. 24, Sept. 1839, p. 827-8.* The long forceps we consider so hazardous an instrument that no practitioner, uless he was very much accustomed to operative midwifery, would venture to use them. We forbear saying more of them than cautioning against their abuse. (We should like very much to learn how many infants' lives have been preserved by them without materilly injuring the patient's structures). We are disposed to recommend the guarded crochet, for our left hand has more than once suffered from slipping of the crotchet, with due attention to all the rules laid down by Dr. R., and we also use a craniotomy forceps—but rather lighter than the one recommended by Dr. Holmes, and which we find most useful.

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*While penning this note, a midwife belonging to one of the most extensive lying-in charities in London, and who has also a very considerable private practice—upwards of ten years came in; we asked her how many forceps cases she had seen! She answered—none!

Induction of Premature Labour.—The arguments on this subject, pro and con, are well defined. We have tried all the plans laid down by Dr. R. with variable success, but for the last ten years we have for the most part preferred puncturing the membranes high up, and letting off a small quantity of liquor amnii, with an instrument of Dr. Holmes's somewhat modified, consisting of a canula slightly curved at the end, having a wooden handle, the whole about thirteen inches long, and containing a concealed flexible trocar, moved by a spring at the end of the handle. The patient having had her bowels well emptied by a brisk purgative or two,—the os uteri being somewhat dilated by the finger—the instrument, guided by the finger, is carefully introduced as far within the uterus (mostly at the posterior part) as it conveniently can be, between the uterus and membranes; having ascertained that the point of the instrument is opposite to the membranous bag of fluid, the handle is carried in the opposite direction and the spring pressed on, by which the trocar is projected out, and the membranes pierced, a moderate quantity of fluid (liquor amnii,) from ℥ss. to ℥j. is allowed gradually to escape by the side of the instrument, which is then withdrawn; the patient is desired to go about as usual, or rather to take a walk, the liquor amnii continues to dribble away, uterine action is at length induced, and the majority of children are born within seventy-two hours from the time of puncturing the membranes.

Of the advantages of dilating the os uteri with spunge and lint, we have had no experience.

The greater number of women, as Dr. R. observes, are not able to nurse their children, but we have had several patients who have done so very efficiently.

We most fully agree with the Dr. that this operation should never be performed (unless from very cogent reasons, and confirmed by a consultation) in a first pregnancy.

In difficult breech presentations Dr. R. objects to the inapplicability of the forceps, says, "the instrument not being made for the breech, but for a more globular body, does not fit that part, and is liable to slip, to the great hazard of the mother's structures. The only way, indeed, by which we can cause the blades to keep their hold at all, is by squeezing the handles firmly together, so that the points may take a deep nip upon the fœtal body; and the youngest student in anatomy would at once call to memory important organs likely to suffer severely from this rude pressure." Either of the three modes, the use of the finger, the application of a handker chief, or of the blunt hook, if the former two are not applicable, is to be preferred; and in this we cordially agree.

In transverse presentation, after describing very accurately the diagnostic symptoms of the different varieties, and the modes of affording assistance, directions are given for the position of the patient (p. 433) which is of the utmost importance to the satisfactory performance of the operation, (we have seen very able practitioners fail from inattention to this,) and for the necessity of baring the arm is insisted on, (which in some works we have been astonished to see is not required,) turning with the left hand is advised, and, among other reasons, that the right may be applied to steady the uterine tumour. It is no doubt of great advantage to be able to use either hand as may be requisite, but of the steadying of the tumour with the right applied on the abdomen we are somewhat sceptical—we believe that the patient is better steadied in the manner we have described for delivering with the short forceps. Before drawing down the part of which we have hold, we are most forcibly and properly cautioned to take care that we have a foot and not the hand. He also says, I think it highly desirable that both feet should be taken hold of, if they lie together and can be commanded by the same effort, because the evolution is so much more easily accomplished when both are brought down; but if one only be obtained, it is neither necessary nor proper that we should spend time, and inconvenience our patient, by searching for the other.

Mr. Barlow's note is a very useful precaution—that "on all occasions when the introduction of the hand into the uterus is required, it is necessary that the contents of the bladder and rectum be previously emptied."

Notwithstanding the Doctor's dissent, we have frequently in arm-presentations (where it has been impossible, by any warrantable exertion, to introduce the hand into the uterus, from its strong contraction and energetic pains) succeeded after a copious bleeding, and a large dose of tinct. opii, in bringing down the feet; and, unless other symptoms required it, we have left them there till the uterine action was restored, and then with very moderate assistance the infant has been expelled.

We have now and then in arm presentations, where the head was in the vicinity, by pressing up the presenting part, enabled the head to come down; and by keeping up the presenting part with the points of the fingers till the head was fully engaged, the labour has terminated naturally, and the infant been born living.

Dr. R. has described faithfully and accurately, with the aid of the plates, the symptoms and management of the breech and transverse presentations, cautioning against meddlesome practice on the one hand, and recommending, on the other, energetic practice where such was requisite. This division of the subject is written with a masterly hand.

Complex Labour.—Hæmorrhage during labour is by far the most frequent source of danger to the lying-in woman; and since it is so common in occurrence, so alarming in its nature, and fatal in its effects, this accident calls for the most anxious and serious attention. All profuse hæmorrhages during parturition, and towards the close of gestation, are to be regarded as originating in a partial detachment of the placenta from the uterine surface, and the consequent opening of a certain number of vascular orifices. It is surprising to notice how slight a degree of depression will follow an excessive flooding in some women: and how small a discharge will destroy others. We have known two women die from the eruption of scarcely a pint of blood; and we have seen others recover perfectly when they have suffered the loss of some quarts. Hence we are to be influenced in the immediate measures we put in practice more by the effect on the constitution than by the apparent quantity of blood lost.

Dr. R. considers the various means used for arresting hæmorrhage generally, and then the treatment more particularly applicable to uterine hæmorrhage during labour, which he divides into *unavoidable* and accidental hæmorrhage. In the management of unavoidable or placental presentation, absolute and uninterrupted quietude in the horizontal posture, and on a hard bed, must be forcibly enjoined, and an anti-hæmorrhagic regimen prescribed; she must breathe a cold atmosphere; be but lightly covered; her diet must principally consist of nutritious fluids—cold and acid drinks must be given almost *ad libitum*, and ices may be allowed, unless they produce intestinal pain or shivering; every thing stimulating, both alcoholic or of any other nature, must be strongly forbidden. The mineral acids, under such a case, may be usefully employed; some gentle aperient will be required, and the acidulated infusion of roses, with small doses of sulphate of magnesia, is perhaps the pleasantest, and, at the same time, as efficacious a medicine, as any that can be exhibited. We must avoid a constipated state of bowels; because the straining necessary for the passage of hardened fæces may dislodge the coagula collected over the exposed vessels, and produce a return of the flooding. We must equally, also, avoid violent purging, lest the frequent evacuation of the rectum should occasion a like disaster. A cold enema may be administered daily, which will probably act beneficially in two ways,—both by clearing the rectum, and restraining the hæmorrhagic tendency.

The Doctor has little faith in the power of opium to suppress hæmorrhage—and thinks that the milder narcotics, as henbane and hemlock, are equally useful in tranquillizing the excited state of the nervous system—without diminishing the uterine energy. But, the Doctor says, a time will arrive when the features of the case will be changed; and the delivery of the infant must be resorted to—the reasons for which, the appropriate time and mode of performance, are fully discussed. For the purpose of controlling the hæmorrhage until the time for delivery arrives, we consider the plug a most valuable remedy, and the best material for the purpose, a soft moistened sponge pressed close to the os uteri. The advantages of this our author does not seem fully to appreciate. When the time for delivery does arrive, there is no case where, as he well says, procrastination is so prejudicial, and promptness in the execution so absolutely necessary to the patient's safety, for she is on the very brink of a precipice. We have passed our hand through the placenta repeatedly—without any of the disadvantages the Doctor enumerates—and in accordance with his reasoning, p. 482, "that in every increase of a line's diameter (in the placenta's detachment) there will be an increase of bleeding." If we are quite sure which is the nearer way to the edge of the placenta, his rule is no doubt the better one. Promptness in determination to act does not imply *hurry* in the execution. We are told, most pointedly and correctly, (p. 483,) "that our hand must be passed slowly and carefully onwards: and again, that rapid extraction of the child's body should be cautiously avoided.

Partial presentation of the placenta admits, for the most part of the same mode of treatment as accidental hæmorrhage; nevertheless, it must not be supposed that a natural termination, though so highly desirable, will invariably follow the proceeding I have recommended: the after-conduct of the case, then, must depend on the continuance of the hæmorrhage, and the effect produced on the occasion.

Accidental Hæmorrhage.—It is mostly observed in accidental hæmorrhage, that, after the establishment of labour, the discharge is diminished in quantity, or wholly suspended, while the uterus is contracting; and returns more copiously in the intervals of action.

In accordance with this observation, early rupture of the membranes, for reasons fully detailed, is recommended. We do not know any obstetrical practice which is more generally satisfactory in its results, than early rupture of the membranes in labour with accidental hæmorrhage, together with a firm bandage round the abdomen, tightened (but not to girt) as the uterus decreases in bulk, and with the occasional aid of the ergot of rye.

Out of a considerable number of cases so treated, we have seen somewhere the result was fatal; and, we believe, (as Dr. Lee observes in his detail of some fatal cases among a number of successful ones,*) that, in these, death could not have been prevented by any means we possess.

Dr. R. further says—"Should the discharge continue to flow outwardly with profuseness, or should indications of internal bleeding be present—the symptoms, indeed, being those of loss of blood generally, together with a flabby and relaxed state of the uterine parieties—delivery must be had recourse to without delay, as offering the only reasonable chance of safety."

Hæmorrhages after delivery, with their treatment, and the operation of transfusion, are well discussed. On the management of the placenta we have full and excellent directions. On the treatment of retained placenta from irregular contraction, we are told—"since, then, there is so much more chance of injuring the uterus, it behoves us to be so much the more cautious in our proceedings. If there be no flooding, we may generally wait an hour from the birth of the child; and in the interval, we may administer small doses of laudanum occasionally.

Of the propriety of giving small doses of laudanum, under these circumstances, we are quite at issue with the Doctor; but in his remarks farther on, p. 526, we more fully coincide. "Our obvious indication, if we were foiled, would be to place the patient in some degree under the influence of opium, and take advantage of the earliest opportunity of its action to renew our attempts; for the longer we wait, the more difficulty we shall experience from the permanent contraction which will assuredly take place, and which we have no means, as far as I have been able to judge, of removing."

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*Medical Gazette Sept. 1839.

We may here state a case somewhat in accordance—but the treatment of which we do not recommend to be followed, unless from absolute necessity. We were called to a patient at mid-day who had been delivered naturally at two o'clock in the morning; fruitless efforts had been made for the delivery of the placenta by three several practitioners, and at the moment we entered the room, the patient was making a most distressing outcry from the pain inflicted by the attempts of one whom we knew to be a most adroit practitioner; the uselessness of further exertion, together with the contused state and extreme tenderness of the parts, induced us, after consulting—other minor circumstances being attended to—to give a lage and influential dose of laudanum in a saline draught, and to wait patiently. Early the morning following an active aperient was given, and four hours after (the aperient not acting) a domestic enema was administered—strong uterine action returned, when the bowels acted, and a very large placenta was expelled without any further interference. The patient did well.

Convulsions is the most formidable disease puerperal women are liable to. This disease assails women of all ages and constitutions (p. 563,) still, cæteris paribus, women of the plethoric or nervous temperament are most obnoxious to their attack, and they by far more frequently accompany first labours than subsequent ones. We agree with our author (p. 564. note) that too minute nosological arrangements are bad, particularly where they do not lead to any practical difference in the treatment; but we do consider that some modification in the treatment is required where puerperal convulsions assail women of the different temperaments before mentioned.

Dr. R. considers puerperal convulsions to be exactly analogous to infantile convulsions, p. 566, (where the nervous system bears a very large proportion to the general bulk of the body,) "and that they are both of them allied to apoplexy; the causes, however, acting upon the system under a highly excitable state. This view of the case, whether correct or not, is practically valuable, and will lead to the most judicious treatment." "But the affection, in my opinion, originates most frequently in some deranged state of the uterus itself, probably in its nervous system, and consists in some irritation propagated from that organ to the brain.

In the treatment, the active exertion of all our skill and energy is required —copious bleeding and other appropriate treatment, are fully descanted on, p. 575-9.

After active depletory means have been had recourse to, and the convulsions have apparently ceased, we think we have seen the recurrence of the paroxysm arrested by dashing the patient's face with cold water, (by a basin full out of a pail,) at the moment we observed the face portray the approach of convulsion by its becoming distorted. "Few (cases) comparatively, under good care, now terminate unfortunately; and the favourable results are to be attributed to the extent to which bleeding and other evacuant means are carried."

The bladder is recommended to be *carefully* attended to (p. 587,) not only during the convulsive paroxysms, but also while a state of imperfect consciousness remains.

Rupture of the Uterus.—This most formidable accident usually terminates fatally. Among the causes, we think not forcibly enough stated by authors, may be mentioned congenital hydrocephalus of the fœtus, and we are therefore induced to detail two cases from this circumstance, the fatal termination of which might have been prevented. In the first, the patient had borne eleven living children—in her 12th labour she was attended by her usual midwife—her labour went on for two days, and not making any satisfactory progress, a second midwife saw her: as the head presented at the brim of the pelvis and no hæmorrhage appeared, and the parts were lax and dilatable, they, the midwives, considered it a mere tedious case; a neighbouring medical practitioner was subsequently called in, when she was dying; and she was dead before we reached her.

The late Mr. Joshua Brooks, with several medical friends, assisted at the examination. On examination per vaginam, there appeared nothing extraordinary—on laying aside the abdominal parietes, the uterus appeared full, prominent and healthy—on opening the uterus, the fœtus lay in the natural position; with considerable difficulty the fœtus was taken out, the head was so completely and tightly jammed in the brim of the pelvis, the uterus was literally worn through on one side, near the cervix, between the fœtal head and brim of the pelvis. Blood had escaped to some extent under the peritoneum into the lumbar region. The patient had an ample well-formed pelvis.

The second patient had also borne several living children. Labour had been going on for thirty-six hours—her usual medical attendant had been with her eight hours—and had gone to lay down on the sofa, she was seized with rigor—we were sent for—the head was perforated—a large quantity of water escaped—there were pains enough to propel the fœtus, and the placenta followed with moderate assistance—shortly after, the patient died. The uterus was lacerated on the side from the cervix to near the fundus—the pelvis was ample. It has occurred to us to have seen several cases of congenital hydrocephalus in labour, in some of which we have reason to believe the fatal termination was prevented by delivering the patient by the operation of craniotomy. Ample and judicious rules are laid down for the detection and treatment of these cases by our author, under the divisions of lingering labour from enlarged head, and craniotomy.

Rupture of the Bladder.—"It appears to me that this accident must always be the effect of neglect or improper interference; it very seldom indeed, or never can occur in the hands of a careful and judicious surgeon."

Since rupture of the bladder is so universally fatal, and since it can usually be prevented if proper attention be paid, it becomes our duty, under lingering labour particularly, to keep a watchful eye over its condition; and, if it become immoderately full, to relieve it by the catheter.

We have afterwards fully treated, collapse, prolapsed navel-string—descent of the hand with the head—monsters and plural births—to this we have added an interesting and valuable appendix. The remarks and directions on fœtal animation suspended, we strongly recommend to the attentive perusal of our obstetrical brethren—as pointing out the best means, and holding out encouragement to them in their endeavours to procure resuscitation.

We do not know why, but we presume for some judicious reason, Dr. R. has omitted mentioning the symptoms of pregnancy, the treatment of maladies now and then attending its progress, and also the subject of abortion; as we consider them forming a part of obstetrical medicine.

There are some subjects, as that on the management of the placenta, which in lectures orally delivered, cannot be too forcibly or strongly impressed, but which, in a written work, appear somewhat redundant, and might, without prejudice to its utility, be curtailed.

In concluding our review, we most earnestly recommend this work to the student, who wishes to acquire knowledge, and to the practitioner who wishes to refresh his memory, as a most faithful picture of practical midwifery; and we can with justice say, that altogether it is one of the best books we have read on the subject of obstetrical medicine and surgery.

I. THREE MEMOIRS ON THE DEVELOPMENT AND STRUCTURE OF THE TEETH AND EPITHELIUM, Read at the Ninth Annual Meeting of the British Association for the Encouragement of Science, held at Birmingham, in August, 1839; with Diagrams exhibited in illustration of them. By *Alexander Nasmyth*, F.L.S., F.G.S., Member of the Royal College of Surgeons, &c. 8vo. pp. 47. London: J. Churchill, 1841.

II. ODONTOGRAPHY; OR A TREATISE ON THE COMPARATIVE ANATOMY OF THE TEETH: THEIR PHYSIOLOGICAL RELATIONS, MODE OF DEVELOPMENT, AND MICROSCOPIC STRUCTURE IN THE VERTEBRATE ANIMALS. Illustrated by upwards of 150 Plates. By *Richard Owen*, F.R.S., &c. Parts I. and II. H. Bailllere, London, 1840.

THE feelings that have arisen between the gentlemen whose works lie before us, and the controversy that has engaged the attention of the public are calculated to pain every lover of science. Physiologists would seem to be a genus irritabile as well as poets, and the more minute and microscopic the point, the more violent the dispute about it. It is neither our habit nor our taste to enter into personal quarrels, and we shall not, in this instance, infringe our custom. We trust that reflection will convince Mr. Owen and Mr. Nasmyth that they consult their dignity by avoiding personalities, and that both suffer by discussions which only amuse the idle and malicious.

Without indulging in any further observations, or meddling with a controversy, unpleasant at the best, we shall content ourselves with presenting, in the first instance, a pretty complete view of Mr. Nasmyth's researches.

Mr. N. observes at starting, that the application of the microscope to the study of the fossil teeth has opened a new field of inquiry. Mr. N. continues,—"In endeavouring to form a classification of the animal kingdom, having for its basis the peculiar disposition and arrangement of the internal organization of the teeth, I was led to the discovery of a structure, which has hitherto not been noticed. Purkinje and Fränkel state, that 'the proper dental substance consists of a uniform structureless substance, and of fibres passing through it.' The writings on the subject by Retzius, Müller, and others, leave us to conclude that the interfibrous substance does not present any traces of peculiar conformation:—but I am disposed to believe that it is not only organized, but so differently and characteristically so in different animals, as to be capable of affording valuable aid to the naturalist in classifying the animal kingdom." Mr. Nasmyth enjoins those who would pursue these investigations to make use of a magnifying power of one tenth of an inch focal distance, and of the most perfect kind, with an acromatic condenser of the light.

Not only has Mr. Nasmyth satisfied himself of the cellular character of the interfibrous structures of the teeth, but he has also made researches into the structure and composition of the fibres of different teeth, and has generally found that these present an interrupted or baccated appearance, as if they were made up of different compartments,—an obvious concomitant of the cellular structure of the interfibrous material. The size and relative position of these portions or divisions of a fibre differ in various series of animals In the human subject, for instance, each compartment of the fibre is of an oval shape, and its long small extremity is in apposition to the one next adjoining. The long axis of the oval corresponds with the course of the fibre. In some species of the monkey tribe the fibre appears to be composed of two rows of compartments parallel to each other. In the orang utan the fibre is composed of rhomboidal divisions, and in the baboon they are oval like those of the human subject, and the surfaces of the long axes are in apposition. In fact, each class of animals seems to have a distinct characteristic appearance, but all are similar in respect to the general baccated appearance.

In the tusk of the mammoth, the structure seems laminated, and there are other circumstances, which tend to bear out the opinion that teeth ordinarily are so. Mr. Nasmyth observes:—

> "If we suppose that ivory consists only of fibres surrounded by a structureless material, passing from the centre to the circumference, we must conclude that at right angles to their course it would be most difficult of fracture; but the contrary is the fact, as is exemplified by the natural separation of the lamellæ of the tusk of the mammoth in a direction contrary to the course of these fibres, as well as by the mode adopted by ivory cutters of making sections corresponding to the vertical, and not to the transverse diameter of the tooth. Many other facts might be here adduced, as well as phenomena accompanying the decay of these organs, were this necessary or relevant to the business of this section. All systems of dental structure which have hitherto been propounded have failed, I think, to explain facts of daily occurrence, but they may be accounted for, I

venture to assert, by the cellular organization of the interfibrous substance which has been improperly termed structureless, and by the peculiar baccated arrangement of the fibres." 8.

The Enamel.—"According to the views of Retzius, Purkinje, and the recent investigators of the structure of the teeth by the aid of the microscope, the enamel consists of the fibres running in a direction from the centre to the circumference of the tooth. Both Retzius and Purkinje have given delineations of the course of these fibres. On making a section of the enamel, in a direction parallel to the transverse diameter of the tooth, the appearance as described by these writers is observed, and they are said to be seen to terminate in an hexagonal form beneath the investing crusta petrosa. If, however, a different section of the enamel of the human tooth be made; for instance, one near the surface, parallel to the vertical direction or long axis of the tooth, an appearance presents itself which has induced me to take a different view of the nature of the structure of the enamel. The appearance to which I now allude is represented at [Plate C. 9.] figure marked Structure of the enamel, No. 1. It will there be found that the section of the enamel presents compartments or divisions, but of a different character from those I have already spoken of as existing in the interfibrous substance of the ivory. Each compartment of the enamel is of a semicircular form, and the convexity of the semicircle or arch looks upwards towards the free external portion of the tooth. The vertical section, [Plate C. 9,] enamel No. 2, gives the appearance of these cells as seen in that direction.

In the sections both of enamel and ivory, there will be always observed near the margins isolated cells, which admit of their form and appearance being carefully studied." 9.

The Pulp.—Mr. Nasmyth observes that the pulp is cellular throughout its entire structure. The surface of it, that portion where it's transition into ivory takes place, presents a beautiful reticulated cellular appearance, and this conformation is believed by Mr. N. to be essentially concerned in the development of the ivory.

An analogous reticular appearance is displayed by the internal or productive surface of the capsule.

The membranous investment which covers the enamel of the teeth of man and other simple teeth, displays a similar arrangement.

"Thus," says Mr. N., "there is a remarkable uniformity in the structure of the formative tissues of the tooth, and of the dental substance itself; for not only is the interfibrous material cellular. but the surface of the pulp, which is the organ for the production of the ivory, and the internal or productive surface of the capsule, also uniformly present a reticulated or cellular appearance.

My researches have, I venture to hope, also established a new and beautiful instance of the harmony of the laws of nature in demonstrating the fact of the uniformity of the products of the capsule: for not only is the enamel uniformly provided with an external covering, but there is also a membranous investment of the crusta petrosa itself. I think, also, that we must be compelled to allow the uniform presence of a fourth tooth-bone substance, the existence of which is more contsant in all animals, either normally or anormally, than any of the other three hitherto recognized textures." 12.

Such is the substance of the first of the memoirs before us. The second is intended to lay before the public, through the medium of the Association, Mr. Nasmyth's conclusions in reference to the following subjects:—1st, on the covering of the enamel; 2ndly, on the structure of teeth: 3rdly, on the structure of the pulp and its relation to the development of the ivory.

Mr. Nasmyth first dwells on the fact that the enamel is, in all instances, covered with crusta petrosa. He adds:—"On the incisor of the calf and several other simple teeth, I have also distinctly traced in this layer of crusta petrosa, superimposed on the enamel, the corpuscules of Purkinje, analogous to those found in bone. I possess preparations of teeth of the human subject, and simple teeth of the herbivora and carnivora showing this structure in a clear and unequivocal form."

Reverting to the fibres of the ivory, and the "baccated" appearance they present, he observes:—"To indicate the true theory of the formation of ivory, nothing more is required than the display of these appearances. No 'excreted' or 'exuded' substance can possibly present an animal tissue arranged in regular connected cells. It is quite evident that these cells, whilst receiving a supply of earthy matter during the processs of transition must remain in connection with, and indeed continue to form part of, the pulp. It would be absurd to suppose that a regular cellular structure can be 'excreted;' but it would be still more ludicrous to maintain, that after such cells have been excreted, that is to say, after all connexion between them and the pulp has ceased, they still possess the power or means of deriving from the blood the materials requisite for their transition into ivory, and of carrying on that process in their isolated state."

"The general appearance of the fibres thus treated is exactly similar to that of the fibres of celluler tissue generally, and the diameter of each corresponds exactly to the diameter of the calibre of the tube, which, according to Retzius, is pervious, although at the same time he says that it is always more or less filled with earthy matter. In fact, the tubes have been said to be principally visible by means of their contents, the reason of which appears to me obviously to be, that these contents are the only part of them which actually exist.

In order to separate the animal matter from the osseous substance of the tooth, I submitted thin slices of many different kinds of dental bone to the action of a solution of caustic potash, for a period sufficient to dissolve and remove the organic tissue; but the brittle nature of the residue, the difficulty of washing it without breaking down its structure, and the great opacity of the sections which had been thus treated, deprived this experiment of any striking results illustrative of the internal organization of teeth; but the appearances presented in its progress were all such as to favour the conclusion that the structure of the ivory is essentially cellular.

Having convinced myself of the existence of the peculiar cellular structure of the tooth, I entered with great interest on an examination of the organ by which it is produced, viz. the pulp.

On examining the internal structure of the pulp generally, the number of minute cells presenting themselves in a vesicular form is very remarkable; they seem to constitute indeed the principal portion of its bulk. These vesicles vary in size from the smallest perceptible microscopic appearance, probably the ten-thousandth part of an inch in diameter, to one-eighth of an inch, and are evidently disposed in different layers throughout the body of the pulp. They are of various shapes." 19.

When thin layers of macerated pulp are examined, they present an irregular reticular appearance, and are found to be interspersed with granules. The parenchyma is traversed by vessels of which the direction is generally vertical.

Mr. Nasmyth conjectures that the cells of the pulp are filled either with air or fluid, he cannot distinguish which. He examines the question if the ivory be simply a product of the pulp, or a transformation of its substance. He says,—although it is distinctly demonstrated that the interfibrous substance of the ivory is formed by the deposition of osseous matter in the cells of the reticular surface of the pulp, I cannot boast of being able fully to unveil that interesting process. The cells for the reception of the earthy matter are displayed, but—how is this matter arranged in those cells? How is it, in the first place, derived from the blood and introduced into them? What are the causes of the characteristic varieties of the interfibrous cellular substance in different classes of animals? What is the precise degree of importance of the reticular cellular organization observed on the surface of the pulp with regard to the process of transition, besides the fact that it presents cells into which the earth is deposited? Do these reticular cells form a system containing circulating fluids, from which the osseous material of the tooth is eliminated? How are these cells connected together, both in their transition state and in the pulp, as well as when they have passed into the state of ivory? These, and many other similar questions, remain to be solved before our comprehension of the process of the formation of ivory can be said to be complete.

He proceeds to develope his own ideas on the formation of the ivory. On the surface of the pulp are found innumerable detached cells, with central points. Generally, these cells form a regular and complete coating, studded with points, which are placed at intervals, corresponding in extent to those between the fibres.

These points are rendered visible from the opacity of the intermediate materal, and will be seen to reflect or absorb the light, according to the difference in the focal distance. A comparison between the superincumbent perfect ivory, and the formative surface of the pulp beneath, is always easy, because portions of the former, at an early stage at any rate, remain adherent to the latter, and fragments of the dental bone are found strewn over it, more especially in human teeth. The cellular conformation of these fragments is always evident, and in size and appearance they are perfectly accordant with the cells of the pulp. At an early stage of dental development, the reticulated or cellular appearance of the pulp is particularly beautiful. When merely a thin layer of ossific matter has been deposited on its surface, it may with facility be drawn out entire, together with the former, laid on a glass, compressed a little, and then examined with the high powers of the microscope. The different layers of cells will be seen, and the transition into ivory may be observed.

> "It appears to me," observes our author, "that the frame work of the reticulation, or cells of the pulp, constitutes the fibres of the tooth, which, while in this state, are spirally coiled, and fit into one another. At all events, the diameter of these fibres of the reticulations is precisely that of the fibres of the ivory; the points or projections rising from the framework correspond to the centres of the cells, and may be traced to belong to their structure. The fibres composed of granules of animal matter, and which I describe as the framework of the reticulations, become, upon the deposition of ossific matter within the cellules of those reticulations, the fibres of the ivory. The only change which they appear to undergo during the process of transition, is, that they are then drawn out from the coiled-up state in which they exist between the collapsed cells of the reticula-

tions into the more longitudinal but still spiral form in which they are found in the ivory." 29.

He is inclined to believe that this convoluted fibre is made up of single successive granules, which are developed one after the other from the body of the pulp, until the fibre is complete. The manner in which the osseous matter is deposited in the cells of the interfibrous substance, Mr. N. has not been able to discover. It would appear, however, that these cells are subdivided into minute cellules, for they present the appearance of being filled with granules in certain progressive stages of development. In whatever aspect we view the formative organs of the tooth, and the dental tissues themselves, and whether we examine the latter during the process of their development, or after their formation has been completed, we are everywhere met by appearances which denote a cellular or reticular arrangement.

Mr. Nasmyth adds:—

"I think that the view I have taken of the subject more satisfactorily explains than any other, facts of daily experience. The laminated arrangement of the osseous cells explains the concentric fracture of the tusks of the mammoth, and of other teeth, when left to decompose spontaneously. The cells being in imbricated apposition, and held together by earthy salts, being moreover arranged in layers conformably with the periphery of the pulp, must be regarded as concentrically laminated. The existence of this structure explains the phenomena daily noticed by ivory-cutters, and also Mr. Hunter's experiments of feeding animals with madder, the result of which is incompatible with any other theory of the structure of dental bone.

No view hitherto taken of the structure of dental bone has afforded a satisfactory explanation of the ordinary morbid appearances of the tooth, but many of these I think may be explained, if we regard the latter as cellular. Still I do not conceive that I have in any way exhausted the subject: far from it; I am quite alive to the imperfect nature of my researches, and am prepared for correction on many points, when more extended and varied investigations shall have been undertaken.

I find that Schwann, in a recent work, teaches that all the primary tissues of the animal frame are cellular, and has given to the world some remarkably interesting details on this subject. He says that he has remarked the characteristic 'cellular nuclei,' or elementary cells, on the enamel-membrane, that they are continued in minute fibres, and that these are similar to the epithelium cylinders in mucous membranes. He notices what he calls cylindrical cells on the surface of the pulp, and he supposes that these cylindrical cells of the pulp are the fibres of the tooth in their first stage, which does not at all coincide with my observations. He regards the dental substance simply as the ossified pulp, whilst my observations lead me to conclude that the cells of the ivory are altogether a distinct formation. He acknowledges, however, that he is ignorant of the process of transition, and he regards the dental pulp as a simple cartilage. In fact, he starts with a ready-made hypothesis, and founds his opinion rather on the observations of others, and on the inferences he draws from them, than on his own actual researches: with respect to what he himself gives as his own, it accords for the most part with the details I have just communicated." 33.

An account of Schwann's researches follows, but we need not insert it.

The *Third Memoir* contains a notice of Mr. Nasmyth's researches into the Structure of Epithelium. After alluding to the opinion first broached by

Leeuwenhoek, that epithelium consists of scales, which are found on the surface of all mucous and serous membranes, as on the inner membrane of the vascular system, Mr. N. proceeds to describe the—

Structure of Epithelium generally.

The epithelium is a layer of substance destitute of vessels, which covers the vascular surface of mucous membranes. If the surface of a mucous membrane (for instance, the conjunctiva or the buccal) of a living animal be slightly rubbed, it will be found, on microscopic examination, that numerous small particles have been detached from it. At the first glance they present precisely the appearance of scales, for they are flat bodies with a thick portion or nucleus in their centre, and with very thin and transparent margins.

They are found not unfrequently with a curved margin and without a central spot or nucleus, and their surface often presents numerous transparent points, with very fine lines. The nucleus of the scale generally contains a small body which has been termed the nucleus-corpuscle. But by this simple method of observation we do not obtain an insight into their true structure. If we remove the secretion from the surface of an irritated mucous membrane, we shall find another class of bodies which differ from these first mentioned, in being smaller and more globular. They have a nucleus of the same size as those of the so-called scales, and also a nucleus-corpuscle, but the surrounding structure is in the form of a cell, and is much smaller. Here and there may also be observed a nucleus with its accompanying corpuscle, lying in substance which presents no appearance of a cell. The structures here described may also be seen on a careful examination of a section of the epithelium and mucous membrane of a young subject. On the surface of, and in immediate apposition to, the mucous membrane are seen numerous nuclei, which more externally are surrounded by a cell; and on approaching still nearer to the surface, we find this cell, from having increased considerably in size, and become compressed, assuming the appearance of a scale, which retains the nucleus, and its corpuscle of primitive size. The various stages of the development of the epithelium may be satisfactorily traced, by removing, after a short maceration, the layer of epithelium from the under surface of the tongue of a young calf, and placing it upon a piece of glass, when, if the external surface of the object be brought into focal distance, large scales only with their central nuclei are observable; but if the object be approximated to the glass, so as to bring the internal part of it into the proper focal distance, numerous small scales are brought into view; and if the object be still more approximated to the lens, so as to bring its internal surface into the proper focal distance, numerous rounded cells become apparent.

In the fœtus, the defined and well-formed scales of the epidermis, are not unfrequently distinctly seen externally; the *rete Malpighii* consists of newly-formed cells, and between the two may be observed other cells in a state of progressive development. On the surface of the vascular mucous membrane minute cells are found with a nucleus in their exterior, round which the cells grow; and this, in short, is the process of development of the minute bodies which constitute the epithelium.

The component parts of the epithelium are connected, according to Mr. Nasmyth, in this manner. The cells on the surface of the mucous membrane are separated from each other by considerable spaces, which are occupied by a gelatinous substance, interspersed with minute granular bodies. But the scales forming superficial layers of the epithelium are separated by very minute linear spaces, but are still connected together by a translucent, gelatinous substance.

This latter displays considerable elasticity, as is easily rendered evident by an attempt to lacerate the epithelium in a moist state, if the latter be examined at the same time by the aid of a magnifying power. Each time that the laceration is attempted, the membrane yields, and the scales separate to a certain extent; but regain their original position, on the cessation of the effort to draw them apart. In some instances a fibrous structure is evident in the gelatinous substance between the scales.

The scales towards the free surface are distinctly observed to overlap. The gelatinous substance above alluded to, presents distinct granular bodies, which give to the epithelium, *en masse*, a rather dense aspect, the individual scales being sometimes covered by these granules; the latter can, however, be separated from the scales by compression; by which means, indeed, the granules themselves may be made entirely to disappear. In certain parts of the epithelium of the calf, distinct fibres are observed, which pass over the surface of the scales, and connect them together, thus forming a very delicate net-work. This appearance is most evident upon compression of the thick epithelium on the anterior part of the alveolar arch of the upper jaw.

In these cases, where the small scales, or small clusters of scales, are being continually thrown off, as on the surface of the body, and of the mucous membranes of man and animals generally, the scales composing the external layer will be found to overlap each other, and thus the gradual pressure of scales below, which are increasing in size, is the cause of the throwing off of these cuticular lamellæ. After these have been detached, their place is occupied by newly-formed scales.

Mr. Nasmyth remarks on another form in which the external layer of cuticle is removed, viz. in a continuous layer, as by frogs and efts. As soon as this layer is removed, another lamina of scales is seen on the surface of the animal's skin. If after the death of a frog it be immersed in water, this thin external translucent layer generally separates; but upon prolonging the maceration, another lamina is found to be gradually separating from the cutis, which is dense, and sometimes measures a quarter of a line in thickness. Internally it will be found to be composed of very numerous cells, while externally the regular series of scales is evident. The tessellated lamina alluded to above evidently takes its origin from this layer of cuticle. Mr. Nasmyth thinks that no other conclusion can be arrived at than that cuticle and epithelium are organised tissues. It would appear that they are formed from a fluid secretion on the surface of the vascular corion. The various stages of development being, 1, the formation of nuclei and corpuscles; 2, that the cells; 3, the growth of the latter effected by vital imbibition; 4, their compression and gradual conversion into minute lamellæ or scales. In short, it appears a rational conclusion that the component parts of the cuticle and epithelium have within themselves a power of growth; and it remains for pathologists to determine what share the derangement of this function has in the production of cutaneous diseases. Another argument in favour of the organic nature of the epithelium is derived from the circumstance, that under certain modifications it presents various vital phenomena, among which may be mentioned the ciliary motions.

Mr. Nasmyth has made the structure and development of that portion of the epithelium which lines the cavity of the mouth a subject of particular examination. In the fœtal subject, previous to the extrusion of the teeth, it forms on the alveolar arch a dense projecting layer, distinguishable from the surrounding membrane by its whiteness, and by the existence on its surface of ridges and sulci, having a waving course and a variable direction. The alveolar epithelium is thicker in proportion to the youth of the subject examined. It is most prominent where it corresponds with the molar teeth: its internal surface is concave, receiving the projecting mucous membrane. This portion presents various objects for investigation.

Firstly, as regards its composition:—It is made up of a mass of scales, lying one on the surface of the other. This disposition shows that the terms "dental cartilage," or the "cartilage of the gum," which have hitherto been applied to this structure, give an erroneous idea of its true nature, for cartilage always presents the corpuscle discovered and described by Parkinje. As in other portions of the epithelium, the external scales here are the larger, and this holds good generally, until we come to the surface of the vascular mucous membrane, which presents simple cells with their corpuscles.

In the interior of this alveolar epithelium, where it corresponds to the molar teeth, small vesicles may be frequently observed, varying in size from one quarter to one-eighth of a line in diameter. They appear to the naked eye to be transparent; under the microscope their parietes are found to consist of attenuated scales, and their cavity to contain a fluid abounding in minute granules and cells.* The internal surface of the epithelium covering the alveolar arch frequently presents concavities or indentations which are from a line and a half to three or four lines in circumference; they correspond to projections from the mucous membrane formed by a larger species of vesicle. The latter is deeply implanted in the vascular mucous membrane. The parietes of these vesicles are composed of a very delicate membrane; they contain a transparent fluid which coagulates on the application of heat, or acid, or on immersion in spirit, and in this fluid float numerous globules and scales similar to those of the epithelium generally. The internal or attached surface of the alveolar epithelium also present numerous fringed processes measuring from one line to one and a half lines in length, and half a line in breadth, which sink into the substance of the subjacent mucous membrane. Under the microscrope these fringes are found to be composed of elongated scales connected together, forming masses which divide and subdivide until they attain such an extreme tenuity that the most minute terminations consist but of two scales in marginal apposition. If the epithelium be carefully separated from the surface of the mucous membrane corresponding to the unextruded molar teeth, and placed in water or in diluted spirit of wine for some little time, its internal or attached surface presents these fringes much enlarged and forming a mass more considerable in size than the dense epithelium itself.

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* The vesicles here alludad to are most probably those which Serres describes as glands for the secretion of tartar: they are very numerous even after the extrusion of the incisor teeth of the calf, and are seen with great facility internally.

The epithelium covering the mucous membrane of the palate presents transverse rugaæ, corresponding to those of the mucous membrane. If these palatal rugæ of the epithelium of the calf be carefully examined from the internal surface with a magnifying power of one inch focal distance, each will be found to consist, or to be composed of, numerous depressions or cul de sacs which receive prolongations or pointed processes of the subjacent mucous membrane.

They are of extreme tenuity, and, when viewed by the aid of high magnifying powers, are observed to consist of distinct scales.

Mr. Nasmyth is of opinion that mucus and epithelium are not, as has been supposed, identical.

Such is the substance of the three memoirs before us. Our readers are put in possession of the principal facts contained in them. They evince the laboriousness of Mr. Nasmyth's observations.

We can but glance at Mr. Owen's work, its partial publication and present incompleteness, precluding our giving any account of it.

We may state that, independently of an unfinished introduction, it comprises a history of the dental system of fishes, which is brought to a termination, and one of that of reptiles, which is merely commenced.

Of the execution of his task, we fancy that it is needless to speak. Mr. Owen's position, his opportunities, his labours, his zeal, and his acquirements, all offer a substantial and sufficient guarantee for first-rate performance. And a first-rate performance it is. When more is before the public we shall return to it, and notice it at ample length.

But we cannot quit the subject without recommending our readers to make themselves possessors of the work. The scientific and the curious will be fully repaid, and the library of every one of philosophical taste, and that of every public body, should possess it.

TRAITE DES MALADIES DES REINS, &c. Par *P. Rayer* Tomes 1, 2, 3. Paris: Bailliere.

TREATISE ON THE DISEASES OF THE KIDNEYS, AND ON THE ALTERATIONS OF THE URINARY SECRETION, &c. &c. With an Atlas of Illustrative Drawings, in Folio. By *P. Rayer*, Physician of La Charite Hospital, Consulting Physician to the King, and Member of the Royal Academy, &c.

IN the Numbers of this Review for April and July 1839, we submitted to our readers' attention some of the more interesting contents of the first volume of this important work, in connection with another instructive book, then recently published on the same subject, by Dr. *Willis*—his Treatise on the Diseases of the Urinary Organs. Since that period M. *Rayer* has brought out a second volume last year, and a third during the course of the present one.

The work, although it would seem to be not yet completed, is altogether so admirable a production that we are anxious that its value should be known to the English student without delay; and, for this purpose, we intend to devote a tolerably long article to its review at the present time, and may probably recur to our theme on some future occasion.

The *first* volume gives an ample account of the healthy and morbid anatomy of the kidneys: it then treats at great length of the urine, its composition, the best mode of examining it, the various changes it undergoes in health and sickness, the different kinds of sediment which it is apt to deposite, and the connection between the morbid alterations of this secretion and those of the blood and other fluids of the body: nearly 200 pages are devoted to the consideration of these topics. The rest of the volume is occupied with a description, first of wounds of the kidney, and secondly of common inflammation of the organ, or simple *nephritis;* the author illustrating at great length the relations which may be traced between this disease and the morbid states of other organs, as of the ureters, of the bladder, urethra and prostate gland, of the encephalon and of the spinal marrow, of the digestive apparatus, of the organs of circulation and respiration, of the skin, and of the lymphatic or absorbent system; and closing with a chapter on the connection of simple nephritis with febrile disorders.

The *second* volume commences with a description of those forms of nephritis that are induced by the absorption of morbid poisons and of purulent matter into the system, by certain of the exanthemata, by gout, and by rheumatism; but five-sixths of its pages are occupied with a most minute and elaborate account of that peculiar form of renal disease, to which the appellations of albuminuria, albuminous nephritis, granular degeneration of the kidneys, morbus Brightii, &c. have been given, and which of late years has excited so much attention in the medical world.

The *third* volume treats of *pyelitis*, or inflammation of the pelvis and calices of the kidney, and the relations between this not unfrequent disease and various other disorders, more especially those of the bladder and urethra, and those of the nervous system; then successively of *perine-*

phritis, or inflammation of the investing membranes of the kidney, of the different kinds of renal fistulæ, of renal hemorrhages and apoplexy, of hypertrophy and atrophy of the kidneys, of *hydronephrosis* or dropsy of the kidney from obstruction to the escape of urine along the ureters, of the developement of numerous morbid growths and alterations, such as cysts, cancer, melanosis, entozoa, &c.; and lastly, of various anomalies, congenital or acquired, as to the number, the relative position, the displacement, and so forth, of the kidneys.

By this summary of its contents, the reader will be able to judge for himself of the wide and extensive field of pathological research which a knowledge of the present work holds out to him; and, although here and there it may be capable of compression with advantage, we can confidently assure the studious physician that it will amply, aye more than amply, repay the labour of a most diligent perusal. In our opinion, it is perhaps the very ablest work on practical pathology, which has issued from the French press since the publication of *Laennec's* immortal work, with the exception of some of M. *Andral's* admirable writings. M. Rayer had already acquired an European reputation by his elaborate treatise on cutaneous diseases; the present one will greatly extend and advance it; and we most fervently trust that he will be long spared to gain fresh laurels in the peaceful pursuit of professional fame.

As it is utterly impossible to embrace within the limits of one article even a passing notice of the numerous subjects, each elaborately discussed, in the three volumes now before us, we purpose to select that one, perhaps the most interesting of all, which involves a consideration of that curious disease of the kidneys, in which the urine is invariably found to contain albumen, as well as to undergo other remarkable changes in its chemical and physical properties. This peculiar affection was first accurately described and discriminated by our own distinguished countryman, Dr. *Bright*, ununder the appellations of *diseased kidney in dropsy, and renal disease accompanied with secretion of albuminous urine*; M. *Rayer* prefers the term *albuminous nephritis*;* and under this term we shall now proceed to give a condensed view of his elaborate description.

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* Our author, alluding to the objections that have been made to the term *nephritis* being applied to a disease, which has not been proved to be essentially and invariably inflammatory in its nature, and which does not require, in numerous cases, an antiphlogistic treatment, states that in his opinion there is always more or less phlogistic action present during the early and acute stage of the malady, and that the physician is not more likely to be misled as to the remedies to be employed by using the term nephritis, than the surgeon is by that of cystitis in the treatment of various chronic diseases of the bladder. Then, as to the objection that the urine is *sometimes* albuminous in simple nephritis and other disorders of the kidneys (a fact which he has long admitted to be quite true), M. *Rayer* thinks that the very circumstance of this morbid phenomenon being only occasional in these cases, whereas it is constant in the disease now under consideration, is in itself an argument in favor of characterising it (the latter) by the appellation of *albuminous*. He very justly remarks that physicians have too long overlooked the acute form of the disease, which so often occurs after attacks of scarlatina, and not unfrequently from mere exposure to cold, as well as from the

ALBUMINOUS NEPHRITIS.

Is chiefly characterised, during life, by the presence of a notable quantity of albumen, with or without sanguineous globules in the urine, by a diminution at the same time in the normal proportion of its salts and of the urea, by a diminished specific gravity of the fluid, and lastly by the co-existence or subsequent developement of anasarca and various kinds of internal dropsy. The disease may be either acute or chronic, febrile or apyretic.

M. *Rayer* describes *six forms*—two of the acute and four of the chronic disease—characterised, the one from the other, by different pathological features; but it is to be remembered that the various morbid alterations may be found united in one case, when the disease has attacked, successively and at longer or shorter intervals, different portions of the two kidneys. He has never met with a case in which one kidney alone has suffered, although the two are often unequally affected.

Anatomical characters of the first form.—The size and weight of the kidneys are considerably increased—from 4 ounces, their ordinary weight, to 8 or even 12 ounces—their consistence is greater, but is not indurated, their surface presents a morbid red hue, and appears spotted over with a number of small red points, of a deeper colour than the rest of the organ. On making an incision into the kidney, we find that its increase of bulk is owing to a tumefaction of its cortical substance, which exhibits numerous red spots similar to those visible on the surface, and which, according to *Rayer's* researches, correspond with the glands of *Malpighi*, highly injected with blood. The tubular substance of the kidney, compressed between the tumefied prolongations of the cortical substance, is of a duller red, and its striæ are less apparent, than in the healthy conditon. The mucous membrane of its pelvis and calices is sometimes injected, and exhibits vascular arborisations on its surface.

We rarely have an opportunity of observing this first stage of the disease, as it seldom proves fatal until a later period. We must be careful to distinguish it from mere hyperæmia of the kidney,—a not unfrequent concomitant of complaints of the heart—and also from simple nephritis: in this last disease the kidney is always harder and redder, and almost always exhibits some purulent points disseminated through its substance.

Second form.—The volume and size of the kidneys are still increased; their consistence is not quite so great, as in the first form. The lobules

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abuse of spirituous liquors, and which is so generally accompanied with what has been long called *inflammatory or plethoric dropsy.*

After stating his own objections to the appellations of *grandular degeneration of the kidneys* proposed by Dr *Christison* and of *albuminuria* by M. *Martin Solon* and Dr. *Willis*, M. Rayer says, "I should have been much disposed to adopt the denomination of *malanie de Bright*, as consecrating the discovery of this celebrated physician if it had not seemed to me preferable to give the disease a significative pathological name."

are often more distinct than in health. But the special character of this form is the very remarkable commixture of anæmia and hyperæmia, which gives rise to a marbled appearance of the surface of the organs, produced by red patches disseminated on a yellowish white ground. On cutting the kidney, its cortical substance is observed to be still swollen, but it is now of a pale yellowish hue spotted with red, and there is a well marked line of demarcation between it and the tubular substance, the colour of which is of a reddish brown *assez vif.*

Third form.—The affected kidney is still larger and heavier than in health, but it does not present any red patches or marbled appearance: its cortical substance, both on the surface and when cut into, exhibits a tolerably uniform pale or whitish-red colour, verging to yellow; in some cases the hue is more pale still, and very nearly resembles that of the flesh of the eel. Here and there, we observe minute vessels injected with blood, and more rarely small brownish patches, or large white granulations, produced by an old deposition of plastic lymph. The papillæ of the tubular substance of the kidney often exhibit red indurations; and the mucous membrane of its pelvis and calices is occasionally thickened, and here and there injected. It is to be remembered, however, that the lesions now described cannot be considered as characteristic, seeing that they are to be also noticed in some cases of simple, not albuminous, nephritis.

Fourth form.—This has been designated by Dr. *Bright* the *granulated texture of the kidneys.* The increased volume of the organ continues; its surface, usually of a yellowish colour, is dotted, and sometimes covered with minute spots of a milky white with a yellowish hue, which are often elongated, and give very much the appearance as if small portions of milk curd had been dropped irregularly on the surface of the kidney. These granulations are usually most numerous and distinct at the two ends of the organ; they are not prominent, for the surface of the kidney is quite smooth to the touch: they are imbedded in its cortical substance. If we cut the kidney from its convex to its concave side, its cortical substance exhibits, as in the second and third forms of the disease, a pale yellow colour which contrasts strongly with the red hue of the tubular portion; it (the former) is swollen and occupies a considerably larger space than in health, especially in its prolongations between the cones of the latter. The milky white spots, or granulations of Dr. *Bright*, instead of appearing rounded and distinct from each other, as they usually do, on the outer surface of the organ, now look like irregular flocculent lines, which seem to be continuous with the divergent striæ of the tubular cones. When the incision has been well made in the direction of these striæ, this arrangement is very distinctly seen, especially at the periphery of the kidney and the base of the cones, where the granular degeneration is usually most conspicuous.

In some cases the granulations, although very distinct on the surface of the kidney, can scarcely be observed in the substance of the cortical structure; while in other cases they are scattered through every portion of it, even to the small prolongations which penetrate into the bases of the tubular cones.

The granulations become distinct, if the kidney has been macerated for some time in water; their dull white colour stands out then more obviously from the surrounding cortical substance. M. *Rayer* alludes to two cases of albuminous dropsy in children, where they were unusually large and of a rounded shape.

Fifth form.—The kidney is larger, heavier, and has its lobules more distinctly marked than in health. I cannot, says our author, give a better idea of the peculiar aspect which it exhibits than by saying that it seems as if a great number of the minute grains of semolina? (*semoule*) were sprinkled on its surface under the investing cellular membrane.

These minute grains, very distinct from the yellow particles sometimes observed in the cortical substance, are the small granulations of plastic lymph which we meet with accidentally in this and in other forms of nephritis.

Sixth form.—This corresponds with the third variety described by Dr. *Bright.* The diseased organ is sometimes larger, but often smaller, than in health; it is hard and more or less irregular or tuberculated. We observe few, or perhaps none at all, of the milky spots or granulations on the surface of the affected kidney; but a certain number is always found, when an incision is made into the cortical substance. The surface of the kidney is indurated, corrugated, and mamillated; but, although sprinkled over, perhaps, with minute asperities, it does not exhibit the genuine granulations of Bright. In some cases, it must be confessed that the anatomical characters of this form of the disease are so closely alike to those observed after simple chronic nephritis, that it would be scarcely possible to point out the distinction between them, if we did not take into account the phenomena present during the life of the patient. In this advanced stage of the disease, the investing membranes of the kidneys are almost always thickened, at least in several points, and strongly adherent.

Symptoms of Albuminous Nephritis.

The Acute form.—This is of not unfrequent occurrence in children after an attack of scarlatina, especially during certain epidemics; it is also occasionally observed in adults after exposure to sudden changes of temperature, from heat to cold and damp weather. It often commences with shivering, followed by the usual symptoms of pyrexia; the urine is observed to be scanty, and is of a deep brown or reddish colour, not unlike to the washings of fresh meat. It is always acid; its specific gravity is often above, and seldom below, that of healthy urine, the proportion of the urea and of the salts being generally not much, if at all, affected. When allowed to rest, it deposits filamentous flocculi, which seem to be formed by the fibrinous part of the blood; for a certain quantity of this fluid is usually blended with the urine.

The odour of the urine is feebly urinous; at the end of twenty-four hours, it often exhales a peculiar smell, not unlike to that of beef-soup. If we examine with the microscope this albuminous and sanguinolent urine, when first voided, we observe that it holds in suspension a great number of blood-globules, occasionally also globules of mucus, and always some minute lamellæ of epithelium. Left to rest for some time, this urine exhibits a sediment composed almost entirely of these globules and lamellæ, and sometimes also of fibrinous filaments: a deposit of uric acid is rare; it is more frequent in the chronic form of the disease. We have already said that the specific gravity of the urine in the acute form of albuminous nephritis is usually not much affected; if pleuritis, pneumonia or other inflammatory disease be present at the same time, the tendency will be to an increase, rather than to a diminution, of the specific gravity. Occasionally, but certainly not in most cases, as alleged by Dr. Christison, there is a certain degree of distress, and even of pain in voiding the urine; this is generally owing to a sympathetic irritation of the bladder, but, in a few rare instances, to the difficult passage of fibrinous concretions along the urethra. There is almost always a dull aching and sense of uneasy constriction or weight in the loins; these symptoms are sometimes greater on one side than on the other; but they are never so severe as in simple nephritis. In no case of albuminous nephritis has M. Rayer ever observed any retraction of the testicles, or heard the patient complain of pains darting in the direction of the ureters.* On the whole, therefore, the local symptoms of the disease must be considered as inconstant and unsatisfactory.

Scarcely has the alteration in the urine fairly developed itself, before symptoms of dropsical effusion make their appearance in some cases with extraordinary rapidity; in short, this is one of the most constant and most characteristic signs of the disease. It usually is first noticed as a puffiness of the eyelids or of the whole face; at other times it primarily affects the limbs, and extends upwards to other parts of the body; occasionally it is erratic, ceasing in one part and making its appearance in another part. The skin is usually hot, and does not pit readily except on strong pressure.

There is always more or less pyrexia of the whole system present; the tongue is furred, the stomach sometimes rejects every thing, and occasionally also the patient is troubled with a cough.

If blood be drawn at this time it is very generally found to be buffy, and sometimes remarkably so; the serum is occasionally milky; but this appearance is much more frequent in the chronic than in the acute form of the disease.

At the commencement of the disease the serum coagulated by heat or by the addition of an acid has its natural consistence; a few days afterwards, the coagulum obtained in this way is found to be less firm than before. The specific gravity of the serum is generally observed to be inversely as the urine is charged with albumen: the greater the quantity of this element in the urine, the lower is the specific gravity of the seram of the blood. M. Rayer has several times noticed that, a few days after blood has been drawn, the specific gravity of the serum has increased, when the urine had become less albuminous in consequence of the remedies employed. He has not succeeded in detecting urea in the blood at this early stage of the disease; but he admits that it may be so, and appeals to the observations of Christison.

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* Dr. Christison, however, states that he has observed this symptom—pain extending down the inside of the thighs and to the genital organs—in several cases of albuminous nephritis.

The cure of acute albuminous nephritis is sometimes very rapidly effected, especially when the disease comes on after scarlatina, or during the latter months of pregnancy. It is usually announced by a profuse perspiration, by a copious discharge of urine, by a sensible and progressive diminution in the quantity of albumen, and an increase in that of the urea and the salts contained in it, by the cessation of the feverishness, and the subsidence of the œdema of the face and other parts. If any dropsical effusion has taken place into the cavity of the thorax or of the abdomen, the cure will necessarily be protracted, even under the most favourable circumstances.

In a few cases, acute albuminous nephritis and the general dropsy, which is one of its principal phenomena, terminate fatally; death is usually announced by the rapid development of cerebral symptoms, or of some thoracic inflammation.

In other cases, the disease assumes a chronic character: the feverishness and the anasarca may quite disappear, and the patient seem to have recovered his health; but the urine still retains it albuminous composition. As long as such is the case, the physician cannot consider the cure as complete.

Chronic Albuminous Nephritis.—This is incomparably more frequent than the acute form of the disease: often it is the sequence or result of the latter; but, in the majority of instances, it has the passive character from its commencement.

In persons of a scrofulous constitution, or whose health has been damaged by former illness, I have observed, says M. Rayer, the urine—which a short time before exhibited no abnormal phenomena—assume all the characters observed in cases of chronic albuminous nephritis with general dropsy. This change sometimes comes on without any appreciable cause; at other times it seems to be attributable to the influence of cold and damp.

The urine, when first voided, is almost always slightly acid; but in a few cases it is neutral or even alkaline. It is always pale, and not unfrequently somewhat opaque, or like whey in which small whitish flocculi are suspended. The odour of the urine is faint, and very different from that of the secretion in health; its specific gravity is usually below the normal standard, and in some cases very considerably so. Examined with the microscope, this urine almost always exhibits numerous small thin lamellæ of a whitish colour, with which are often blended a mucous matter that is either amorphous or in the form of globules.

The want of transparency of the urine is sometimes owing to the presence of a fatty matter held in suspension; this may be removed by means of sulphuric æther; and then the urine becomes quite clear.

If we examine a phial filled with albuminous urine, we usually notice on its surface, and against the sides of the glass, a number of bubbles; and if we blow air with a tube into it, we immediately observe a multitude of large bubbles, like those formed in the same way in soapy water. The action of heat and of nitric acid at once produces the formation of an albuminous coagulum; this, in some cases, is so abundant as almost to solidify the whole mass. The yellow cyanuret of potassium and iron also coagulates albuminous urine, if it has been previously acidulated with acetic acid.

When this state of the urinary secretion exists, we very generally find that there is a certain degree of increased irritability of the bladder; for the patient has more frequent calls to pass water than in health, even when the actual quantity voided in twenty-four hours is below the normal standard; there is however seldom any pain felt in the loins, except perhaps when very firm pressure is made.

The alterations of the urinary secretion now described may continue for several months, before any symptoms of dropsical effusion into the cellular tissue or elsewhere make their appearance, and without being accompanied with any signs of constitutional disturbance, except debility of the muscular system and empairment perhaps of the appetite. But if the patients are not carried off by some casual illness, or by one of the secondary affections which so frequently supervene during the course of albuminous nephritis, we may with certainty predict that they will become sooner or later dropsical. The most frequent form of dropsy is unquestionably anasarca. In the morning the eyelids and face are observed to be puffy; and towards evening, if the patient has been standing much during the day, the feet and ancles also are generally swollen. The œdemay of the lower extremities, connected with disease of the kidneys, does not, it would seem, so readily subside by rest in the horizontal position as when the dropsical effusion is dependent on some organic affection of the heart: this diagnostic difference should therefore be attended to.

M. *Rayer* says that, in several cases, he has observed that the nephritic anasarca was very sensibly and rapidly aggravated by exposure to cold air—more so than is ordinarily the case in other forms of the disease. Ascites is another form of dropsy that is not uncommon, more especially in those cases where there is co-existent disease of the heart or liver; hydrothorax and hydro-pericardium also are not unfrequent in the latter stages of the malady.

It deserves to be noticed that chemical analysis has occasionally detected in the serosity of these effusions a certain quantity of urea, independently of the albumen and saline matters usually discoverable in them.*

When albuminous nephritis has existed for a length of time, the *blood* is found to undergo remarkable changes. The proportion of the coagulum becomes much diminished, and that of the watery portion correspondently increased. On examining the serum by itself, we find that it contains less albumen and saline matter than in health, and that its specific

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***Nysten*, so far back as 1810, alludes to the presence of urea in the water of ascites. In 1833, M. *Guibourt* detected it in the case of one of M. *Raynor's* patients; and in 1831, Dr. *Barlow* detected it in the serum found in the ventricles of the brain in a patient whose urine was coagulable, and in whom the kidneys exhibited on dissection the granular degeneration, although no form of outward dropsy had occurred during life.

gravity is lower.* The researches of *Bostock*, *Christison* and *Gregory*, are very valuable on this subject. Occasionally it has a milky appearance, and looks very like whey.

If we examine with the microscope the blood of hydrophic patients, who have been long affected with albuminous nephritis, the *red globules* are observed to be less numerous than in health; and mixed with these we find other globules of a white colour and of a larger size than the former.—There can be no doubt that a certain portion of *urea* may be occasionally found in the blood; it is small indeed and very variable in quantity; but that it does sometimes exist cannot be disputed. The less the portion that is contained in the urine, the larger will be the quantity discoverable in the blood. Whoever desires the most exact information on this and other points connected with the chemistry of the disease, must apply to Dr. *Christison's* work.

As to the proportion of the *fibrine*, the experiments hitherto made are insufficient to enable us to speak positively. The blood is often found to be covered with the buffy coat, with retracted and puckered edges as in acute rheumatism, even in the chronic form of albuminous nephritis; but M. *Rayer* is not inclined to agree with Dr. *Christison* that the quantity of the fibrine can be estimated from the thickness of this *couenne*. It is to be remembered that the size of the coagulum is usually considerably smaller than in health; and also that the buffiness of the surface is not unfrequently owing to the co-existence of some secondary inflamation of the abdominal or thoracic viscera.

Independently of the more striking phenomena of chronic albuminous nephritis which we have described, there are some others that deserve to be noticed—for example, the marked diminution of the perspiration, the dyspnœa, sometimes accompanied with vomiting, and often with a diarrhœa, which, however profuse it may be, never causes any sensible diminution of the dropsical effusion. The breathing is almost always embarrassed, either from existing bronchitis, or pulmonary œdema, or hydrothorax, or from some other morbid affection of the lungs or the heart, either antecedent or consecutive to the disease of the kidneys. In a few cases cerebral symptoms come on; the rapid invasion of these is almost always the sign of approaching death.

The *duration* of albuminous nephritis varies much, from a few months to several years. It is always difficult to determine with exactitude the epoch of its commencement, especially in hospital practice, as it is usually for the consecutive dropsy that the patients apply for relief, and they are not at all aware that they have any other complaint.

Once that the characteristic alteration of the urinary secretion is ascertained to exist, the physician, as we have already stated, may with tolerable confidence predict that, unless the patient is carried off by some accidental malady, some form of dropsy or other will almost inevitably ensue, But when this will take place, and, after it does, how long the patient is likely to survive, it is not possible to form any reasonable conjecture.

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*The medium density in health is 1028 or 9; during the course of the disease it falls to 1020, and sometimes, even as low as 1013; the dimunition seeming to be directly proportionate to the quantity of the albumen in the urine.

> "In the greater number of cases," says M. *Rayer*, "the dropsy continues until death—presenting, like the disease of the kidneys, remissions and exacerbations at longer or shorter intervals of time, or perhaps occasional amendments so considerable and so durable that the patient is enabled to attend to his business without much interruption for several years, and until the disease, assuming a more active form, forces him to keep bed and then terminates fatally more or less rapidly, in consequence of the supervention of a secondary complaint, such as some cerebral affection, or pericarditis, or pleurisy, or pneumonia, or gangrenous erysipelas, or perhaps obstinate diarhœa, with or without vomiting and general fever."

Much will depend, as a matter of course, on the general constitution of the patient's body, whether this be cachectic or not, and on various other considerations which will necessarily be taken into account in forming our prognosis of every serious malady. This leads us by a natural step to consider.

The Causes of Albuminous Nephritis.

The exposure of the body to cold and damp, or whatever has the effect of suddenly checking perspiration, as for example drinking a cold fluid while the skin is hot or sweating, is unquestionably the most frequent cause of the *acute* form of the disease; hence it is most commonly observed in those who are subjected to rapid changes of the temperature, such as bakers, workmen in glass-works and distilleries, and convicts who are kept at forced labour out of doors. The action of cold and moisture is most remarkable, where the disease follows scarlet fever during the period of desquamation. It is to the same agency that we can generally trace the exacerbations and relapses of the disease, when it has been once checked by a judicious system of treatment.

The *chronic* form of the disease may be induced by a variety of causes; but the most frequent of these, at least in France, is habitual or long-continued exposure to cold and damp. The most of the cases treated by M. *Rayer* have occurred either in workpeople, whose occupation exposes them to wet, or in persons who have been living in unhealthy, cold, and damp dwellings. The intemperate use of spirituous liquors increases much the predisposition to albuminous nephritis. Dr. *Christison* is of opinion that three-fourths, or even a larger proportion, of the cases in Great Britain, are attributable to this most pernicious practice; but, as the vice of intemperance is not nearly so prevalent on the Continent, our author cannot judge of the accuracy of this statement. The frequency of the disease in hackney-coachmen, porters at wharfs, &c., may be no doubt explained in this way.

Again, whatever tends to render the system cachectic is sufficient to induce disease of the kidneys in certain cases. M. *Rayer* states that he has seen several instances in which pregnancy also appeared to have a real influence in the development of albuminuria; but he does not endeavour to account for it. Scrofulous and syphilitic disorders have unquestionably, according to his experience, powerfully predisposing effects, especially in those who lead an intemperate life, and are exposed much to the vicissitudes of weather at the same time; but he does not consider that gout, scurvy, or purpura, although the urine in these diseases is sometimes bloody and coagulable, have any decided tendency to produce a lesion of the kidneys. Pulmonary phthisis however seems to have a marked effect; so also have organic diseases of the heart, and likewise of the liver; although it must be confessed that the hepatic disease seems not unfrequently to be of quite as long standing as that of the kidneys—both being so often attributable to the same cause, the abuse of spirituous drinks.

M. *Rayer* is not satisfied, from the results of his own experience, that mercury can be regarded as an exciting cause of disease of the kidneys. He has for many years past been in the habit of using various preparations of this metal in cutaneous and hepatic affections, without having ever observed that it seemed to lay the foundation for any dropsical affection. That however mercury occasionally induces an albuminous state of the urine appears to be proved by the observations of Dr. *Wells* and Dr. *Blackall. Christison* also cites a case, which, in his opinion, goes to shew that the mercurial action has some influence on the development of the granular degeneration of the kidneys.

With respect to the sex and age, in which the disease is most frequent, it appears that it is unquestionably more common in males than in females, and its attacks seem generally to take place between the 20th and 40th year of life: it is of rare occurrence in old age.

Diagnosis.—The acute form of albuminous nephritis may, in most cases, be recognised without much difficulty, by the co-existence of an albuminous and often sanguinolent state of the urine with the rapid development of anasarca, and occasionally of dropsical effusion into some internal cavity. In no other acute disease do we meet with the re-union of these characters.

In a few cases no dropsical effusion takes place; but even then the peculiar state of the urine, accompanied with more or less febrile irritation and derangement of the general health, will be sufficient to diagnosticate the disease. Hæmaturia is perhaps the only complaint with which it may be mistaken; but in this we can generally recognise, at least with the microscope, the pure blood mixed with the urine; and, if such be not the case, then we observe fibrinous concretions or filaments floating in the water; the passage too of the urine is generally more or less painful, and the pain on one or on both sides of the loins is more severe than it ever is in cases of albuminous nephritis. It deserves to be noticed here, that in some cases—they are rare—of dropsy supervening upon scarlet fever, the urine will be found to contain neither any blood-globules nor albumen; but in by far the greater number of cases it is otherwise.

The *diagnosis* of the *chronic* disease is attended with much greater difficulty and incertitude than that of the *acute* form; whether we compare those cases that are accompanied with dropsy with cases where dropsy is produced from other causes, or, on the other hand, compare those cases of albuminous nephritis, in which dropsical effusion is not present, with certain diseases of the kidneys, or of other viscera, in which the urine either habitually or accidentally contains a more or less considerable quantity of albumen.

When, in a patient who experiences only trifling if indeed any pain in the loins, the urine is found to be of a low specific gravity, and contains albumen with only a small proportion of urea and the urates, the presence of chronic albuminous nephritis may be regarded as certain, especially if there be no disease of the heart existing at the same time. Even when there is, the chances of mistake are but small indeed, and for the following reasons. When the kidneys experience a passive hyperæmia and congestion of blood, in consequence of the obstruction to the free circulation through them, occasioned by some exciting disease of the heart or lungs, the urine is apt indeed to contain a certain portion of albumen and sometimes also of red globules; but the quantity of these foreign ingredients will be found to be very irregular at different times, and to be much diminished by quietude and repose in bed—a change which we do not observe to take place in genuine disease of the kidney. Moreover the specific gravity of the urine and the proportion of the urea and urates are not affected; at least to the same degree. The dropsical effusion too caused by disease of the heart usually commences in the lower extremities and upwards, whereas that arising from a lesion of the kidneys is often first perceived in the face.

In diabetes, the urine is sometimes found to contain albumen; but then, at the same time, saccharine matter exists in it.

Again, when the urine becomes charged with mucus or pus, in consequence of disease of the pelvis of the kidney, or of the bladder, the action of heat or of nitric acid upon it will discover the presence of albumen. It might be deemed unnecessary to mention this, were it not that cases of *pyelitis* (inflammation of the pelvis and calices of the kidneys) and of cystitis have actually been published as examples of albuminous nephritis—the authors forgetting that the mere presence of albumen in the urine is not an exclusive phenomenon of the latter disease, and overlooking at the same time the presence of mucus or of pus, which are seldom or never found in the urine of patients affected with genuine albuminous nephritis, as well as other characters which distinguish the former maladies.

> "When, after a few days' indisposition," says M. *Rayer*, "a patient is affected with serious cerebral symptoms, or with repeated attacks of vomiting, without dropsy; if, at the same time, the urine is strongly charged with albumen, and is of a low specific gravity, and if we cannot detect any existing disease of the heart or of the pelvis of the kidney, or of the bladder or urethra, the existence of chronic albuminous nephritis may be regarded as more probable than that of a primary cerebral affection. And if it is ascertained that the patient has been exposed to wet and cold, or that he has been addicted to the abuse of spirituous drinks, or that he had been affected with dropsy some months before, the diagnosis of renal disease may be asserted with still greater confidence.
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> If, while the urine exhibits the characters already indicated, there is no existing disease of the heart or large blood-vessels, nor any affection of the liver, nor the state of pregnancy be present, and if, under such circumstance, anasarca or other form of dropsy comes on, we have strong reason to regard the kidneys as the source of the evil."

He confesses however that, in some complicated cases of disease of the heart and liver, it is exceedingly difficult, if possible, to determine whether the dropsical effusion arises primarily from the lesion of these organs, or from that of the kidneys.

The dropsies, which not unfrequently supervene on protracted intermittent fevers, especially on those of the quartan type, are of two sorts;—one depending upon disease of the kidneys, and characterised by an albuminous state of the urine; while the other sort, whose mode of production is not well known, seem to be more immediately connected with the aguish state of the system, being usually curable by means of bark and other febrifuge remedies.

In conclusion, we must here remind our readers that it is only by studying attentively the *ensemble* of a case, and not by dwelling upon any single and unassociated symptom, that we can hope to arrive at any accurate conclusions in our diagnosis of renal disease; "there is perhaps not one symptom of albuminous nephritis, either acute or chronic, that is not occasionally met with in other maladies, and yet it is equally true that there is a series of symptoms which belongs only to this disease, and by which its existence may generally be detected."*

Prognosis.—It is unnecessary to amplify much on this topic, as the scope of our remarks may be easily anticipated from many of the preceding observations. When the disease is acute, death sometimes very suddenly supervenes, in consequence of disease rapidly developing itself in the brain, or lungs, or pericardium. Hence the attention of the judicious physician will always be drawn to the state of these organs, as long as the urine remains albuminous or sanguinolent.

As to the chronic disease, it must always be regarded as one of very serious import; as long as the urine remains coagulable and of diminished specific gravity, the health of the person cannot be considered otherwise than very unsatisfactory, from the tendency that exists under such circumstances to development of various maladies, such as dropsy, pleuritis, cerebral affections, &c.

Any marked diminution in the quantity of the urine, when it is abnormal in composition, should always be viewed with especial suspicion, as this is not unfrequently the precursor of cerebral or thoracic mischief being established. The co-existence of disease of other organs, or a cachectic state of constitution, will necessarily render our prognosis in cases of albuminous nephritis more unfavourable: we shall recur to this topic when we treat of the complications of the malady, and shall therefore now proceed to that more interesting subject.

The Treatment.—The two chief causes which tend to develop albuminous nephritis, and the dropsy which is the consequence of it, being the sudden or prolonged impression of cold and moisture, more especially during the recovery from scarlet fever, and the abuse of spirituous liquors, the aim of the physician must be to guard against and counteract the influence of these agencies. And, although in the majority of cases professional assistance is not resorted to until the disease has existed for a considerable time, still there are some in which the practitioner, if he be upon his guard, may succeed in entirely preventing the establishment of the mischief. Hence the importance of examining occasionally the state of the urinary secretion during the course and stage of convalescence from attacks of scarlet fever, and of using all judicious means to preserve the patient from exposure to cold.

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* M Rayer mentions the thesis of M. Tissot in 1833, and that of M. Desir in 1835, as especially valuable in pointing out the various diseases in which the urine has been found albuminous. The milky state of the blood has been observed by Trail and Hewson in cases of simple nephritis, of hepatitis, of rheumatism and of asthma, as well as of granular degeneration of the kidneys: vide Christison, Ed. Med. and Surg. Journal. vol. xxxiii. Urea has been detected in the blood after attacks of simple nephritis, where the urine was not coagulable, and also in cases of atrophy of the kidneys.

Among the poorer classes this precaution is the more necessary, for very obvious reasons.

With respect to the influence of intemperate habits, it has only been within the last few years that medical men have been aware of their tendency to induce a serious lesion of the kidneys. The liver and stomach have hitherto been considered as the organs that suffer most from intemperance; but it now appears that the kidneys are as liable to become diseased as they are. Whenever the urine of a person addicted to this vile custom is found to contain albumen, or when any œdematous puffiness is observed in the face, there is strong reason to suspect the existence of renal disease, especially when there is no existing affection of the heart or great bloodvessels. It is almost unnecessary to add, that if the habit is not abandoned by the patient, or if there be symptoms of co-existent phthisis or heart-disease, or when there is a venereal cachexia of the constitution, there is little or no chance of ultimate success for any mode of treatment.

Among the most useful of all remedies we must rank the detraction of blood, either from the arm, or by means of cupping over the loins. The quantity to be drawn will depend upon the severity of the febrile excitement, and the rapidity with which the dropsical effusion takes place. The frequency of the operation will be determined by the state of the blood drawn, according to the amount of its fibrinous portion and the thickness of the buffy coat. M. Rayer says that, as a general rule, it is safer to draw rather too much than too little during the acute stage of the disease.

If the pyrexia be not severe, one general bloodletting may be sufficient; but it is always well to follow it up with cupping over the renal region. Sometimes a troublesome erysipelatous inflammation appears round the wound in the arm or the cuts of the scarificator: but, by judicious treatment with soothing lotions, this may be usually subdued without much difficulty.*

If, after a week or two, the quantity of the albumen, which had been diminished by the means now recommended, again becomes increased, and especially if there are present at the same time other signs indicative of a *recrudescence* of the renal inflammation, we should repeat the bloodletting and cupping: emollient cataplasms over the loins seem to be useful also under such circumstances.

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* It has been observed however, that erysipelas and other cutaneous affections are more apt to be troublesome and unyielding during the cachexia induced by nephritic disease, than in most other states of the system.

As long as any febrile movement of the system continues, the patient should keep his bed, and drink freely of demulcent and slightly nitred beverages, for the purpose of encouraging perspiration: the use of the warm-bath also is useful. When he is permitted to leave his bed, he should be warmly clothed, with flannel next the skin, and be enjoined to avoid all exposure to currents of cold air.

After the use of bloodletting, saline purgatives are to be administered, especially if the bowels are at all constipated. If dropsy is already established, or when there is any tendency to the supervention of cerebral symptoms, we must employ more active purgatives, such as jalap, gamboge, &c.*

When the stomach and bowels are irritable, and when the patient is distressed with severe vomiting or diarrhœa, the best remedies are warm baths, small doses of opium, and the application of leeches to the anus.

The food should be light and altogether unirritating; M. Rayer thinks highly of milk, *pour tout nourriture*, at least for several days.

So much for the treatment of *acute* albuminous nephritis; it is simple and obvious compared with that of the *chronic* form of the disease.

In the majority of cases, all that we can hope to effect is to arrest or suspend the morbid action; the complete cure is scarcely within our reach.

Whenever we have reason to suspect the existence of active hyperæmia in the affected organ, from a feverish state of the system or from the existence of local uneasiness, the application of the cupping-glasses should be resorted to; but we must be on guard not to employ depletory measures too far, when the renal lesion is suspected to be very serious.

Great mischief may be done by injudiciously lowering the powers of the system under such circumstances, and no benefit to the disease can be rationally expected.

During the course of chronic albuminous nephritis. there is apt to be, from accidental causes, an occasional aggravation or *recrudescence* of more acute symptoms; just as we observe during the progress of pulmonary phthisis, and other organic diseases. Then again the supervention of inflammatory attacks in other organs, as of the pleura or lungs, may require blood to be drawn; but let it be remembered that, whenever such attacks are grafted, so to speak, on renal disease, much more caution in the use of venesection is necessary than under ordinary circumstances.

A most useful means to arrest the progress of chronic lesion of the kidneys is the establishment of an issue or seton in the lumbar region.

M. Rayer has in several cases seen decided benefit derived from the internal use of the tincture of cantharides—10 or 12 drops in an emulsion: the dropsical symptoms have disappeared at the same time under its use.* He confesses however that it is "an uncertain remedy, and one that may prove dangerous in the hands of the inexperienced." Balsamic and terebinthinate medicines he has tried, but without good effects. Equally unsuccessful in his practice have been frictions with mercurial and ioduretted ointment over the loins.

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* The *pulvis jalapæ compositus* of our pharmacopœias is one of the best forms that we can use: *elaterium* also is one of the most efficacious of all purgatives under such circumstances.—*Rev.*

The dropsical effusion may generally be got rid of for a time by the use of hydragogue cathartics: when the patient is much enfeebled, the addition of a ferruginous preparation to them is made with advantage. When there is gastric or intestinal irritation present, drastic medicines must be used with great caution, or be altogether omitted.

Dr. *Bright* has but little confidence in the greater number of diuretic remedies, and M. *Rayer* is inclined to agree with him: he thinks that Dr. *Christison* has greatly exaggerated their value. Squill and digitalis, while they are most uncertain in their effects upon the kidneys, often disorder the stomach and distress the patient with sickness.

M. *Rayer* speaks well of a decoction of the wild horseradish: "of all diuretics it is the one which has appeared to me to offer the best chances of success."

Vapour baths have been found useful in the chronic, as well as in the acute, form of albuminous nephritis. When the dropsical effusion is considerable, they should be administered to the patient in bed. The use of certain diaphoretic medicines, especially the *Dover* and *James's* powders, has been much recommended by English writers; but M. *Rayer* says that, after a fair trial of them, he has found them very ineffectual, and that the former often causes great sickness.

When the skin is not only dry but chilly also, the tincture of guaiacum has been occasionally found to be serviceable. In cases in which the anasarca goes on increasing, in spite of all internal remedies, it has been recommended to discharge the serosity by puncturing or scarifying the skin. The distressing, and sometimes fatal, consequences which M. *Rayer* has seen to follow these operations have led him of late to disapprove of the practice in almost every case. He admits that in dropsical effusion arising from disease of the heart it may be often employed, not only without danger, but with great benefit; not so, however, he thinks, in dropsy from disease of the kidneys, in consequence of the much greater tendency in the latter case of the punctures becoming inflamed and even gangrenous.

With respect to the treatment of those *secondary affections*, which so frequently complicate chronic albuminous nephritis, it is unnecessary to say much at present. Suffice it to state that, if they are of an acute character, they must be promptly subdued within the first twenty-four hours after their development; and, on the other hand, if they be passive or chronic in their nature, we must not expect to do more than merely to palliate the more distressing symptoms. The following general directions are laid down by M. *Rayer*:—

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* Dr. Wells treated five cases of dropsy, in which the urine was coagulable, with large doses of the tincture of cantharides—from 30 to 60 drops in the course of the twenty-four hours. In three of the cases there was a marked amendment; in one, the albumen disappeared from the urine. In the other two cases, there was no improvement. Dr. Blackall has remarked that the tincture seemed sometimes to increase the coagulability of the urine. It appears, therefore, that there are still some doubts as to its curative action.

1. Calomel in purgative doses, cupping over the mastoid region, and blisters to the nape of the neck, are the principal remedies against cerebral affections.

2. Inflammation of the bronchi, pleura, lungs, or peritoneum requires the usual antiphlogistic treatment; but the physician should remember that the weakness of the constitution, the alteration of the blood, the co-existence of dropsy, and the lesions of the kidneys and perhaps of other organs also, greatly diminish the chances of success.

3. Bitters, tonics, and creosote, are better remedies to allay the vomiting, so often caused by derangements of the urinary secretion, than ice, opium, gazeous draughts, cupping, &c.

4. Opiate preparations are most effectual against obstinate diarrhœa.

As to general regimen and diet, he lays much stress on the selection of a warm and dry locality for residence, on warm flannel clothing, on the use of light and easily digested articles of food, on the occasional use of warm aromatic baths, and on a prolonged course of steel medicines: a small portion of generous white wine may be allowed to the patient at the same time, if no symptom contra-indicates its continuance.

Having concluded this part of his subject, M. *Rayer* proceeds to describe more minutely the relations between albuminous nephritis and other diseases of the urinary organs, and also between it and various morbid lesions of other viscera and other parts of the system; illustrating his observations with the reports of numerous cases, drawn chiefly from his own experience. The cases we cannot find room for; but we shall now endeavor to lay before our readers the sum and substance of his valuable researches on this head.

> "There are," says he, "several striking analogies between simple nephritis and albuminous nephritis. Both are alike produced by the impression of cold and moisture. In the acute stage, (with the exception of pus, which is exceedingly rarely, if ever, met with in the albuminous disease) every thing is common: the injection of the parenchyma of the kidneys, the increase of their bulk, the yellow discolouration of their substance, &c. In the chronic stage, when this is far advanced, the lesions are so similar that, without various circumstances drawn from the course of the diseases, from the presence or absence of dropsical effusion and of the albumen in the urine, it would be impossible to distinguish the one from the other. But, on the other hand, some strong points of dissimilarity separate the two morbid states; and one of the most striking of these is without doubt the marked influence which diseases of the urethra, bladder, prostate gland, ureters, and pelvis of the kidney have on the development of simple nephritis, while they seem to exert little or none on that of the albuminous kind. Now this circumstance points out a great difference in the nature of these two renal affections."

In simple nephritis, the pain in the loins is usually greater, and there is generally more or less of an uneasy numbness extending down the inside of the thigh; the testicle is often retracted, and micturition is more frequent and painful.

M. *Rayer* comments on several cases reported by different writers, wherein he thinks that an error of diagnosis was committed. Thus a case related by Dr. *Gregory* of albuminous nephritis coming on after the operation of lithotomy, he considers to have been one of simple nephritis, even although albumen and blood globules were found in the urine. Several of the cases too recorded in Dr. Christison's work, where the disease of the kidneys was associated with morbid states of the bladder, are in his opinion erroneously described as instances of the genuine *morbus Brightii.*

Alluding to one case in particular, No. XVIII. M. Rayer says: "In this, as in several others, Dr. Christison appears to me to infer too readily the existence of the granular affection of the kidneys from the mere presence of albumen in the urine, although he is not ignorant that this phenomenon is common to several other maladies of the urinary passages."

A morbid state of the pelvis and calices of the kidneys is of much more frequent occurrence in simple than in albuminous nephritis: and for the reason that, in the latter disease, the inflammation is usually seated almost exclusively in the cortical substance of the affected organ. Now whenever the pelvis and calices are inflamed, there is always a morbid secretion of mucus, which mingling with the urine renders it more or less cloudy. By examining the deposit or cloudiness with the microscope, we may recognise the mucous globules and the debris of epithelium. Simple nephritis is often the result of a previous disease of the pelvis and calices; the albuminous kind is rarely or never.

The occurrence of particles (grains) of purulent matter in kidneys affected with genuine *morbus Brightii* is, according to the experience of M. Rayer, very rare; and, when he has met with them, he has always considered the phenomenon as the result of an accidental inflammatory attack of the organ.

*Relations of Albuminous Nephritis with Diseases of the Heart and Pericardium.**

Our author is of opinion that the influence of renal disease on the development of these maladies has been much exaggerated by English writers. He has met with numerous cases in which there was a co-existence of the two morbid affections, although not in the proportion observed by Bright;† but, in not a few of them, the cardiac disease was evidently antecedent to the disease of the kidneys. "If these were deducted from the entire number, there would remain a very small number indeed which could be considered as affections genuinely *secondary*, or owing their origin to a lesion of the kidneys;" and he adds, "Were I to judge from the results of my own observations, I should say that albuminous nephritis is most frequently added to cardiac affections, and is a secondary affection of them."

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* One of the sections in this chapter in Rayer's work is headed "Albuminous Nephritis simulated by Diseases of the Heart."

The kidneys, as well indeed as all the other viscera, are liable to become congested with blood whenever there is any embarrassment of the circulation; when this is the case, the urine is apt to be charged with albumen, but its specific gravity is not much, if at all, affected, and the urea and the urates are not decidedly diminished.

† Dr. Bright says, that in 65 out of 100 cases of granular affection of the kidneys, was the heart found to be more or less diseased, and that in about one-half of these (65) cases it was remarkably so. M. Rayer, on the other hand, says, that in not more than about a fifth of the cases which have come under his notice, he found, during life or after death, any notable alterations in the heart or pericardium.

That the urine is often albuminous in patients affected with disease of the heart, when there is no serious affection of the kidneys, cannot be disputed by any experienced physician; but if, along with having this character, it is of a pale citrine colour, and of a low specific gravity, we have strong presumption that there is genuine renal degeneration existent.

With respect to the lesions of the pericardium that are unusually associated with the morbus Brightii, M Rayer commences his remarks by stating that, "often in the course of this affection the pericardium contains a notable quantity—four or five ounces—of limpid serosity; but it is rare that the amount of this is so considerable as to constitute a genuine hydropericardium."

Every pathologist knows that, whenever there is a disease of the heart, there is always a strong disposition to its investing membrane becoming affected with inflammation or with dropsical effusion. We must therefore be upon our guard not to attribute these lesions on all occasions to the existence of renal disease, when there happens to be present at the same time any affection of the heart.

It is often difficult, as we have already stated, to determine as to the relative antiquity of cardiac and renal disease, when co-existent, and to decide which organ was primarily affected. Of this, however, we may be quite assured, that, in all cases where the kidneys are diseased, the disposition to inflammation of the pericardium, and other organs, is greatly increased.

Hence, the importance of the physician having his attention frequently directed to examine the state of the heart, whenever the urine is found to be in an abnormal condition.

The remarks, which we have now made as to pericarditis in patients affected with renal disease, are equally applicable to the inflammation of the lining membrane of the cavities of the heart, or endocarditis.

Before closing our remarks on the connexion of renal disease with the organs of circulation, we may state that, in several cases, the bloodvessels of the affected kidneys have been found to exhibit certain lesions which seem often to have been induced by the extension of the inflammation of the cortical substance.

Thus the renal veins are sometimes considerably thickened, and their cavity filled with fibrinous clots. M. Rayer confirms the observations of Dr. Bright, that the small divisions of the renal artery are less easily penetrated by an injection thrown into them, than in a healthy state.

Relations of Albuminous Nephritis with the Diseases of the Respiratory Organs.

We are prepared, from the contents of the preceding pages, to anticipate that the lungs and their appendages will frequently be affected, when the kidneys are diseased; for when are the central organs of circulation ever disordered, but there is a marked tendency to various morbid states of the pulmonary apparatus? Whoever has read the beautiful disquisition of Mr. *Wardrop*, in his work on the Heart, on what he has called the *pulmo-cardiac junction*, will remember many striking illustrations of this fact.

M. *Rayer* says:—" I have related several examples of the coincidence of pulmonary disease with simple nephritis. This complication is much more frequent in albuminous nephritis; and this frequency is such that it is impossible not to admit the influence of this disease on the development of certain lesions of the lungs and pleura, and, on the other hand, the no less remarkable influence of chronic pulmonary diseases on the affections of the kidneys."

We shall first allude to *Bronchitis.*

This is certainly the most frequent of all the complications or *secondary* affections attending chronic albuminous nephritis; it was present in seven eight's of M. Rayer's cases. The bronchitis is generally in a chronic or passive form itself; and frequently there is so little distress in the breathing that the patient takes little or no notice of it. Not a few patients, however, labouring under renal disease, are cut off by a sudden aggravation of the bronchitic symptoms. As might be expected, little can be done by medicine, except to relieve the more urgent distress: we cannot hope to get rid of the disease altogether.

Pneumonia also is a not unfrequent secondary affection of several renal diseases, such as simple nephritis, albuminous nephritis, and diabetes.—It is very often of the lobular kind, so well described by *Laennec* and other recent writers. Its symptoms are usually more or less masked in consequence of the cachexia of the constitution; and it has been found that the stethoscopic signs have in many cases been very unsatisfactory or even fallacious. It is unnecessary therefore to say how cautious should the physician be in watching his patient. If the pneumonic attack be acute, he will probably sink under it, whatever treatment be adopted. M. *Rayer* thinks favourably of the tartar-emetic in full doses, in such cases. Besides bronchitis and pneumonia, *pleurisy*, with or without effusion, is not unfrequently developed; occasionally also *œdema of the lungs*, *pulmonary apoplexy*, &c.

M. *Rayer* dwells at considerable length on the connexion between *phthisis* and albuminous nephritis, and is of opinion that the latter disease is much more frequently induced by tubercular cachexy, than *Bright* and some other writers seem to suppose. Certain it is that the urine is often found to be albuminous during the course of phthisis, and that the kidneys, if not exhibiting the necroscopic appearances of genuine granular degeneration —and even these are occasionally present—are usually more or less diseased. The co-existence of any renal disorder will always aggravate the pulmonary affection, and probably hasten on the fatal termination. M. *Rayer* remarks that in several cases he has observed the colliquative sweating to cease altogether, when any œdema of the limbs took place in a phthisical patient. On the whole he should say, from the result of his own experience, that albuminous nephritis was more frequently a secondary affection of phtisis than *vice versâ.*

Relations of Albuminous Nephritis with diseases of the Alimentary Passages.

There are various diseases of these passages that are very frequently developed during the course of albuminous nephritis, of which they seem to be the results and consequences. Occasionally aphthæ appear in the mouth and fauces; the English physicians, who have been too apt to have recourse to mercury in renal disease, have observed that the gums, &c. are more readily affected with this mineral in it than in other disorders.

Œdematous angina, a very fatal complaint, has been noticed in several cases, and especially in those which have followed attacks of scarlet fever.

The functions of the stomach are very commonly disturbed more or less severely; nausea and vomiting being present in a considerable proportion of cases, more especially in the latter stages of the disease. Small doses of magnesia, lime water, hydrocyanic acid, or creosote—given a few minutes before eating or drinking—will sometimes check this troublesome symptom. Opium, æther, brandy, and such like medicines, in certain cases, answer better. If the vomiting is not arrested by the use of these means, the application of a blister or of a moxa to the pit of the stomach will sometimes succeed.

In two cases M. *Rayer* found on dissection an extensive *ramollissement* of the mucous membrane of the stomach. When this lesion exists, the vomiting is usually observed to be aggravated by taking anything into the stomach, whether food or medicine. Under such circumstances enemata and the endermic exhibition of remedies must be trusted to.

Diarrhœa is a symptom which still more frequently accompanies disease of the kidneys than even vomiting; it was present in more than one half of the cases observed by M. *Rayer.* However profuse it may be, it seldom induces any diminution in the dropsical effusion. On dissection, we usually find patches, more or less extensive, or great vascular injection, in different parts of the small intestines; the mucous membrane is sometimes much softened, and occasionally exhibits a deeper chocolate colour. Ulcerations here and there are not unfrequently observed, and the mucous follicles are apt to be puffy and swollen: in some cases however the only morbid appearances discoverable is an anæmic pallor of the intestines. Dr. *Christison* recommends a pill composed of three grains of the acetate of lead and half a grain of opium, to be given three, four, or even six times a day.

Peritonitis is one of the least frequent of the secondary affections induced by albuminous nephritis.

Morbid changes of the *liver* are not so often co-existent with renal disease as might have been expected. *Bright* states that in eighteen cases only out of 100 of granular degeneration of the kidneys did he find any serious alteration in the texture of the liver; and the results of *Rayer's* researches seem to lead to a similar conclusion. In almost all the cases—viz. where the liver was decidedly diseased—the spleen was observed to be more or less altered from its normal condition.

Relations of Albuminous Nephritis with Cerebral Affections.

"Cerebral affections," says M. *Rayer* "occur but rarely in the course of this disease; but often, shortly before death, there supervenes a state of coma, analogous to what is not unfrequently observed during the progress, and especially towards the close, of a number of diseases of the kidneys, and more particularly of grave simple nephritis.* Attacks of apoplexy, coma, epileptiform convulsions, and sudden death—either without any appreciable lesion of the encephalon, or, which is more frequent, with subarachnoid and ventricular effusion—are the most common complications of albuminous nephritis; but they seem to be rather of an accidental than of a genuinely or consecutive character." Whenever they do occur, they must always be regarded as very alarming symptoms. It is by no means necessary that the urinary secretion be suppressed, or even at all diminished, before a state of complete coma comes on. *Christison* assures us that he has seen it to supervene and prove speedily fatal, when the patient was passing from two to three pints of urine daily; and, and on the other hand, he has observed in some cases the secretion to be exceedingly reduced in quantity, without any threatening of cerebral symptoms. Coma rarely occurs in the early stage of the disease, except indeed where this has followed upon an attack of scarlet fever. We may again mention that Dr. Barlow obtained nitrate of urea from the fluid effused into the cerebral ventricles of a patient who, while labouring under disease of the kidney, died from an attack on the brain.

Relations of Albuminous Nephritis with Eruptive Fevers.

The condition of the urinary secretion during the course of the regular exanthemata has hitherto met with but little attention from medical men;—except indeed during scarlet fever. In some cases of measles and also of small-pox, as well as of scarlet fever, the urine is observed to contain a certain quantity of blood, and consequently of albumen; and, after death, the kidneys have been found gorged with dark blood, and occasionally coagula have been found in their pelves. M. Rayer has knowledge of one case of albuminous nephritis occurring during the period of convalscence from confluent small-pox; and Dr. Gregory has cited a similar case, attended with dropsical effusion, following an attack of measles. But such instances are, at least as far as we yet know, only of casual occurrence: the subject however, it must be admitted, requires much more attentive examination than it has yet received, before we can decide how far either of these eruptive fevers has a tendency to induce the development of renal disease. As a sequela of scarlatina, albuminous nephritis, both in its acute and in its chronic form, is by no means an unfrequent phenomenon.

M. Rayer examines the connexion between these two diseases at great length, and, we need scarcely add, with admirable candour and ability. This chapter of his work is exceedingly worth an attentive perusal, and had our limits allowed, we should have most gladly followed him through his interesting description. The two important conclusions, which he draws from his researches are these:

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* Rayer alludes, in terms of praise, to a paper read by Dr. Wilson before the London College of Physicians in 1835, and also to a valuable communication by Dr. Addison, published in the Guy's Hospital Reports for April 1839.

1. That in certain cases of scarlatina—especially during its later stage, that of the desquamation of the skin,—the urine is more or less highly charged with albumen, without dropsy supervening; the kidneys, under such circumstances, being found on dissection, to be highly congested with blood, and exhibiting lesions which altogether correspond with those, already described as characteristic of the first form of albuminous nephritis, induced by exposure to cold and damp or by the abuse of spirituous liquors.

2. That the anasarca, which frequently follows scarlatina*—by its mode of development and prognosis, by its occasional cause (the impression of cold and moisture,) by its general diffusion, by the alteration of the urinary secretion which accompanies it, by its abdominal, thoracic, and cerebral complications, by the lesions discoverable on dissection, and by the results of remedial treatment—cannot but be considered analogous with the dropsy supervening on acute or chronic albuminous nephritis, when this has been induced by other causes.

When albuminous nephritis is developed after an attack of scarlatina, it usually appears towards the close of the third, or the commencement of the fourth week after the appearance of the eruption. The patient, who for some days previously may have been very well, becomes uneasy and somewhat feverish; the sleep is disturbed, the appetite is impaired, and sometimes nausea and vomiting are present. A few days afterwards a puffiness is noticed about the eyelids; this gradually extends to the rest of the face and to the neck, and thence to the extremities and trunk; in some cases, the œdema shews itself almost quite suddenly over the whole surface of the body at the same time. The urine is almost always much diminished in quantity; and is usually voided frequently and with some difficulty; it is of a deep reddish-brown colour, and often contains a portion of blood mixed with it. Suspended in it may be seen a flocculent whitish matter, resembling unclarified whey, or (when there is any admixture of blood in the urine) the water in which raw flesh has been macerated. Its specific gravity will generally be found more or less below the normal standard. There is usually considerable pyrexia present; the action of the heart is strong or even tumultuous; and the breathing is quickened and oppressed. In some cases the head, in others the chest, and in a third set the abdomen is the seat of the chief suffering and danger.

The acute form of albuminous nephritis has been known to come on very suddenly after scarlet fever, when the patient has been incautiously exposed to cold, and to prove fatal within forty eight hours after the attack, either from convulsions, or coma, or asphyxia supervening.

When the disease has the passive form from the first, there is often little or no pyrexia present; but the patient does not recover his strength or appetite: his sleep is disturbed, and there is a general uneasiness. By and bye, the face or the extremities are observed to be somewhat œdematous; the breathing perhaps becomes oppressed; and the anasarca becomes more and more diffused. If the urine be examined, it will be found in almost every case—the exceptions are exceedingly rare—to be albuminous, and to be of a lower specific gravity than in health. Whenever the urinary secretion is in this state, the physician ought to be on his guard, whether dropsical symptoms have made their appearance or not; for some cerebral* or thoracic affection may suddenly supervene and cut the patient off in a day or two, in spite of the most active remedies.

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* "I here speak," says M. Rayer, "of the dropsy which is most usually observed; for it is well known that, after scarlet fever, we sometimes meet with some forms of dropsical effusion induced by other causes (affections of the heart, diseases of the liver,) and which cannot be attributed to any morbid state of the kidneys."

It is scarcely necessary to dwell upon the mode of treatment to be followed in albuminous nephritis, whether it be accompanied with dropsy or not, after attacks of scarlet fever; as this must be conducted on quite the same principles as those which we have explained in a previous part of this paper. Whether the disease be of the acute or of the passive and chronic form, the patient should be kept in bed, and perspiration be promoted by the use of vapour or of warm baths, and of tepid demulcent drinks. Bleeding, general as well as local, will be required according to the character of the existing symptoms. Drastic purgatives and stimulating powerful diuretics are on the whole hurtful; the milder forms of these remedies are decidedly better. When the disease is considerably protracted, and at the same time is unattended with fever, recourse should be had to the use of tonics, as steel or quinine in some bitter infusion, and of wine.† The repeated application of blisters over the loins has in many greatly promoted the quickness of the cure.

M. *Rayer* does not allude to the administration of mercury under any form in the treatment of renal disease, whether this be of an acute or of a passive character: we may therefore suppose that he does not approve of it.

Before quitting this part of our subject, that regards the connexion of albuminous nephritis with the pyrexiæ, it may be well to state that, in typhus and also in yellow fever, the urine has been occasionally found charged with a certain portion of albumen, with or without blood globules; but this symptom alone is not, it is to be remembered, pathognomic of the existence of albuminous nephritis, unless the other peculiar abnormal changes in the secretion be present at the same time; and such is seldom the case. Moreover dropsy is of very rare occurrence indeed after either of these forms of fever.

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[*] Not a few cases of the *wasserschlag*, or sudden hydrocephalus, have occurred under such circumstances.

[†] Dr. Hamilton records a very instructive case of dropsy after scarlatina treated with stimulants. He was called in great haste to see a young child, who was dangerously ill with dropsy after this disease; the extremities were cold, the lips livid, and the breathing exceedingly oppressed; indeed Dr. H. did not expect her to survive the night. He ordered a blister to be applied on the chest, and as much punch, made with gin or whiskey, to be given to the child as she could be made to drink. These remedies quickly induced a great amendment; the urine became much more copious, and all the unfavourable symptoms subsided: ultimately she quite recovered.

After intermittent fevers, on the contrary, dropsical effusion, into the general cellular substance and into the abdominal cavity, is by no means unfrequent. It is now well known that dropsy, occurring under such circumstances, is by no means always of the same nature or yields to the same mode of treatment, as has been hitherto too generally believed. In one case, the œdematous swelling of the feet and of the face quickly disappears under the use of quinine and steel: the disease, in such cases, seems to be generally connected with enlargement of the spleen. In another case, the dropsy, it would appear, is connected with a renal affection, the urine being found to be more or less highly albuminous, and the disease exhibiting the same symptoms and the same general progress as we observe usually in albuminous nephritis. Such cases are to be treated on the principles explained in a former part of this article; but, should there be a co-existing enlargement of the spleen, or any return of the agueish symptoms, the administration of bark will be required at the same time.

M. *Rayer* devotes a few pages to point out the not unfrequent connexion of renal disease, and an albuminous condition of the urinary secretion with scrofulous maladies. If such patients have been exposed to wet and cold, or are of intemperate habits, the disposition will be greatly increased.

The venereal cachexia also is, according to our author's experience, a powerfully predisposing influence to the development of albuminous nephritis. *Wells*, *Blackall*, and some other writers, have attributed the disease, under such circumstances, rather to the action of mercury than of syphilis on the system; but M. *Rayer* leans to the opposite opinion. This point requires further examination, before we can arrive at any exact conclusions.

> "There is one circumstance," says our author, "that I wish to direct the reader's attention to, and it is this; in almost every case of chronic albuminous nephritis which I have met with in patients affected with constitutional syphilis, the liver was in an unhealthy condition. Had it become so from irregularities of diet, or from the abuse of spirituous drinks? This I have not been able to determine in many of the cases. I may add that, having observed pretty frequently similar maladies of the liver, but without any lesion of the kidneys, in persons affected with constitutional syphilis, I have been led to the opinion that these alterations of the liver appear to me to be connected with the syphilitic cachexia. When the liver is diseased, but without any co-existing renal affection, the urine is usually scanty, and of deep red colour, and deposits a lateritious sediment, even when ascites is present; on the contrary, when the kidneys are simultaneously involved, the urine is of pale yellow colour, more or less charged with albumen, and without any brick-dust sediment. I know few diseases, which have less chance of any relief than these complicated affections of the kidney and liver occurring in a venereal habit of body: a good deal however may sometimes be done by a judicious use of the tisan of Feltz, the pills of Sedillot, and some of the preparations of opium."

M. *Rayer* closes his account of albuminous nephritis with an elaborate historical narrative of the most striking descriptions, in the works of different writers from the time of the early Greek writers down to the period of Dr. Bright's first publication in 1827, of the diseased conditions of the kidneys most frequently found in cases of dropsy, and of the subsequent discovery of albumen being occasionally present in the urine. This narrative has been drawn up with great care and candour. It shews, in the first place, that many of the older physicians, from the time of Hippocrates himself, through the period of Arabian literature, down to the middle of last century, have repeatedly pointed out the frequent existence of disease of the kidneys in cases of general dropsy, and that it has been only within the last 60 or 70 years that the influence of such disease has been overlooked; so true is the saying, that " nothing is so new as that which is forgotten." *Hippocrates* uses these remarkable words:—"Dropsies supervening upon acute diseases are always dangerous, for they do not free the patiens from fever; they increase the existing pains, and often terminate fatally. Some dropsies proceed *from the flanks and the loins*, others from the liver. In the first set the feet swell, and there is often a most obstinate diarrhœa, which however does not abate the pains in the loins, nor empty the abdominal effusion." *Ætius* is still more exact; he distinctly tells us that persons, who are affected with *induration of the kidneys*, become in the long run dropsical. *Van Helmont* repeatedly alludes to the kidneys being the "artifex" and "principalis effector" of dropsy. *Bonetus*, describing the appearances found on dissection in a case of dropsy, says that "the kidneys had quite lost their natural colour, and had become of an almost milky-white colour," and *Morgagni* still more accurately describes the lesion in these words; "both kidneys were irregular in their surface, and spotted over with numerous white spots."

In 1825, M. *Andral*, in his description of a case of dropsy in which there was no existing disease of the heart or of the peritoneum, draws the attention of his readers to the kidneys in the following passage: "there was, however, another organ which exhibited an alteration that must not be forgotten: this was the kidney, the cortical substance, and part also of the tubular substance of which were changed into a *whitish granular substance*, divided into small masses or grains, interposed between the remaining portions which retained ther natural red hue. Had this peculiar alteration of the kidney," he asks, "caused any obstacle to the free secretion of the urine, and thereby contributed, in a manner more or less direct, to the production of the dropsy? However this may be, it was the only lesion discoverable on dissection; but if the cause of the disease in this case is obscure, the cause of death is very apparent; it was evidently owing to the double hydrothorax."

The second part of M. *Rayer's* historical narative gives an account of the various publications, which notice the occasional presence of albumen in the urine, from the time of *Cotugno*, in 1770, down to the present time. He mentions with especial praise the memior of *Cruickshank*, in 1789, and the papers by Dr. *Wells*, in the transactions of a Society for the improvement of Medical and Surgical Knowledge, which he remarks are "trop peu connus" in France. The works of *Blackall*, *Nysten*, *Prout*, (l'auteur des travaux temps,) &c. are successively noticed. The reader is thus brought down to the period when Dr. *Bright* published "son beau *travail*," Reports of Medical Cases, in 1827. The subsequent works and papers by Drs. *Gregory*, *Christson*, *Craigie*, *Barlow*, *Copland*, *Hamilton*, *Seymour*, *Willis*, &c. in this country, and of MM. *Tissot*, *Monassot*, *Desir*, *Martin Solon*, &c. in France, are each noticed and commented upon.

"Arrived," says our author, "at the end of my work on albuminous nephritis, it now only remains for me to call the attention of the reader to some points in the history of this disease. At first, he should especially attend to the marked difference which it presents in its acute and in its chronic form—differences which I have thought it my duty the more to insist upon, seeing that hitherto they have not been explained with sufficient clearness, and medical men have too long and too generally supposed that the *morbus Brightii* was an *organic* affection. This opinion has been the source of many serious errors entertained as to the nature and curability of the disease; it has given rise to discussions which, having no true foundation, could end in nothing satisfactory. The constitution of the urine is not the same in the two forms. All writers have given, as an important character of the urine in *Bright's* disease, a diminution of its specific gravity; now, not only is this character not true of the urine in the acute form of the disease, but the very reverse is most frequently the case. The diagnosis of the two forms is, besides, the more necessary as the antiphlogistic mode of treatment, so often efficacious in the acute form, is generally either quite useless or positively hurtful in the chronic form. Physiological pathology will necessarily attend much to the phenomena of albuminous nephritis in all enquiries as to the production of dropsy. It is certainly not easy to explain, in some cases, the mechanism in which this takes place. It has been supposed that them ere impoverishment of the blood from the loss of its albumen was the immediate cause; but then, if this is always the case, how comes it to pass that dropsical effusion sometimes occurs very rapidly, before the loss of the albumen of the blood is at all considerable? and that in other cases hæmaturia may exist for months and even years, and yet no dropsy supervene?

Lastly, I would again impress the extreme importance of using all means to guard against the influences of cold and damp in every case where the urine has once exhibited the phenomena of albuminous nephritis; many a relapse might be avoided by this precaution."

We take leave of M. *Rayer's* work with the deepest respect for the talents, the industry, and candour of its authour. Besides his high merits as a clinical physician, he is a "ripe and good" scholar, well informed in the medical literature of other countries as well as of his own. We know of no foreign work that better deserves a translation, compressed and annotated as a matter of course, than this *Traité des Maladies des Reins.*

PERISCOPE;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

NOTICES OF SOME NEW WORKS.

A New Operation for the Cure of Amaurosis, Impaired Vision, and Shortsightedness. In an Letter, addressed to John Richard Farre, M.D. &c. Physician to the London Ophthalmic Hospital, Moorfields. By *James J. Adams*, F.L S. G.S. Member of the College of Surgeons. 8vo. pp. 50. London: John Churchill.

The division of the recti muscles of the eye would seem to be still the rage. The gentleman before us has applied it to the treatment of *amaurosis*.

He refers the orgin of many cases of this complaint to a peculiar affection of that portion of the optic nerve which intervenes between the optic foramen and the ocular globe. He cautions us, however, that the term *amaurosis* means with him simply a dim or darkened sight, without implying any organic disease of the optic nerve. "Having thus," he adds, "restricted the term amaurosis to the expression of a symptom, common to many diseases of the eye, namely, dim or darkened sight; a necessity arises for distinguishing, by an additional term, the different cases of impaired vision in accordance with their degree or cause; therefore, as the *cause* of the amaurosis, which will form the subject of the following pages, will be found to depend on muscular action, and not on any disease or change of structure in the nerve, I propose to distinguish it from all the other forms of blindness by the term *Muscular Amaurosis*."

His account of the symptoms is as follows:—

"In the simple forms of the disease the *objective* symptoms are few, they may be subdivided into two, namely, those which exist within the eye, and those which relate to its position and motions. Of the former very little can be said, since they consist only of slight variations from the natural condition of the pupil; the iris may be more dilated and less active than natural, and the colour of the pupil may be somewhat less brilliant than usual, though not to that degree which is recognized as a turbidity of the humours. Of the latter more may be observed; the position of one eye, and generally of the one most affected, may be slightly diverged so as to constitute a peculiar stare, but not a squint; also if the eye least affected be closed, the affected one may become violently inverted, which will be increased by any effort on the part of the patient to straighten it by looking directly forwards, though he may have perfect power to direct the eye to the outer canthus if he wills it; again, if both eyes be open and an object be held directly in front of the root of the nose, one eye may be apparently attracted towards the object, or turned towards its inner canthus, while the other will be repelled or moved towards its external canthus, so that the patient may be found to have scarcely any power over the equal convergence of both eyes.

Though these symptoms are frequently found either separately or conjointly, it is not unfrequent to find them all entirely absent, and only the natural appearances of the eye present.

The *subjective* symptoms are, in the uncomplicated forms of the affection, numerous and liable to much variety, and may like the *objective*, for convenience sake, be subdivided into two kinds, namely, those which affect the sight, and others which affect the feelings of the patient. Those which affect sight may commence in several different ways, either suddenly, gradually, or irregularly, in one or both eyes at the same time. If suddenly in both eyes, the patient may, while following some ordinary occupation, or on his first rising in the morning, find himself blind or nearly so; if one eye only be affected, he will feel conscious of seeing objects on the affected side less perfectly than on the opposite; this condition may rapidly pass away, or continue for several hours, then gradually cease or lessen; but on the first active exertion or application of the eye to fine work, or reading, the patient is surprised to find that he cannot see small objects for more than a few minutes at a time before they appear misty and confused; it will sometimes not advance beyond its first degree, but remain stationary for many years; at others, it will advance very rapidly, and the sight become so defective that the patient cannot see to guide himself about, though the amaurosis will very rarely be found complete, except for during a few hours at a time. In some instances the first failure of the sight is attended by a bright yellow or red spot or, indeed, a mixture of them both; the yellow being encircled by the red.

If the disease commence gradually in both eyes, the patient at first will merely complain of the eyes feeling weak and soon fatigued after moderate exertions; this state may continue without any particular attention being paid to it, till at last he finds that on waking in the morning the sight is very dim, and remains more or less so during the time of his dressing, and that in the day time it has become much worse than it used to be, distant objects are less distinct, and near objects cannot be viewed for so long a time without a dimness and confusion of vision being produced. If he attempts to read, the book is brought closer to the eyes than is usually natural in order that he may see the print distinctly, and this he may do for the space of ten or twenty minutes, when the sight will become gradually dim, the letters confused, and (as it were) running one into the other: if the patient continues to look at the print for the space of a few seconds, it will become distinct, then misty, again distinct, and again misty, till at last the mist will increase and remain to such an extent that the form of the largest letter cannot be seen, and he will become for a short time more or less blind. However, if the eyes be closed for a few seconds, the sight will be again restored, and the patient once more enabled to see to read distinctly; though instead of being able to read for twenty minutes, before the symptoms of confusion and dimness of vision commence, he will find that he cannot read during more than *ten* or *fifteen* before another rest will be required, and that of a longer duration than the first, even perhaps, to three or four minutes; at the end of which time the sight will again become fit for reading, but for a still shorter period: perhaps not more than five minutes will elapse before the confusion of the letters will require another period of rest, of a still longer duration than the preceding; thus the increasing inability to maintain a clear view of an object will continue, until at last the patient will find it impossible, even after a long rest, to see any near object for more than a few seconds together; he is therefore compelled to give up, for many hours, or for the remainder of the day, the employment of his eyes on the subject which causes the dimness. When the disease has advanced to this state, he, in all probability, cannot see to read a single line of print by candle light; should it have commenced gradually in one eye the inconvenience will be somewhat less than above described. The gradual form of the disease, like the sudden, is always liable to a rapid increase in its severity."

Some cases follow, and they are succeeded by an account of the operation performed by Mr. Adams:—

"The operation which I propose, for the cure of muscular amaurosis, consists in the division, and *the extensive preparation* of one, two, or more of recti muscles: of which, be it observed, the separation must be *equal* and *even* in each instance. The mode by which I perform this operation I have made peculiarly my own, by adapting a particular set of instruments to it, and by requiring, for its perfect success, a very extensive separation of the muscle, not only from the sclerotica, but from the cellular tissue and conjunctiva which lies in front of it. A description of the instruments I employ, with a detailed account of the steps of the operation may be seen in the Provincial Medical and Surgical Journal, No. 22, Vol. I. p. 356, and the instruments may be obtained at Weiss's.

The reason for Mr. Adams' proceedings will be found in this etiological paragraph.

"I venture to believe that no cause will be found so likely in its consequences to produce the peculiar disease of which we have been considering, as the arrangement of the recti muscles with respect to the nerve, for whatever the cause may be, it must possess the power of *acting suddenly*, of varying its degree by becoming *complete or incomplete* by turns, and of *changing from eye to eye; moreover*, *of existing without danger to the life of the patient, and, frequently, without in the least degree altering the healthy and natural appearances of the eye, from childhood to old age.*

I am therefore of opinion that the peculiar form of amaurosis, here designated by me as *Muscular Amaurosis,* depends on the bending or partial folding, and compression of the optic nerve, caused by the shortening and thickening of the recti muscles during a state of morbid contraction, which further may be attributed to an affection of the third and sixth nerve, probably at or near to their origins."

Those who would know more about the matter we must beg to refer to the pamphlet itself.

THE ORATION DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, at their Sixty Eighth Anniversary, March 8, 1841. By *W. D. Chowne*, M.D. Member of the Royal College of Physicians, London, &c. 8vo. pp. 71. London, 1841.

To those who know Dr. Chowne. a complimentary mention of him will appear unnecessary. Few members of the Medical Societies of London have distinguished themselves more honourably by zeal for the advancement of medical science. The oration before us is highly creditable to its author, and gave great satisfaction to the body that it was addressed to. We are tempted to notice one passage in particular, because it embodies our own sentiments, and reads, we think, an useful lesson of scepticism in these credulous days. Not that we deem credulity more rife than heretofore—there was no need of that—but it is almost *as* rife as ever, and much *too* rife for the 19th century. The following is the passage to which we alluded, and which we may offer as a sample of the whole.

"The pleasure which arises from the belief that a new remedy has been discovered, the charm of novel modes of treatment, the reliance which bold and confident assurances are calculated to command, all conspire to take the judgment by surprise, and to obtain even for error, a place in the society of doctrines that are true, and sound, and based on the testimony of time, of experience and of strict impartiality. This association, however, is happily of but short duration, yet, short as it may be, it is injurious to the interests of the public, and disparaging to the character of our profession. In the outset of life, the young and the sanguine of all professions are liable to be misled by that which is the natural result of immature experience, too much hope and too much confidence; but however amiable and generous these may be, or however much they adorn the character, and are beautiful qualities in their relation to private life, they are not suited to the advancement of a grave, important, and complex science, such as that in which we are engaged: on the contrary, few things tend more to that object, than the exercise of sound and guarded discrimination, in the yielding or withholding of confidence, where new doctrines are the subjects of consideration.

Those who can look back, through a series of years, upon the phantasies which have been boasted into ephemeral fame, by the dupe, by the enthusiast, and by the empiric in turn; who have seen these visions come and go, ushered into being with *pretensions* the most *ostentatious*, but exemplifying, in their rapid lapse into neglect, their utter worthlessness and nothingness, will hold themselves more than justified for the exercise of that which the world calls scepticism, and for increasing their reserve, in proportion as the claims upon their faith, may have been confidently and authoritatively advanced; they may perhaps, deem themselves excused, should they, with more than common freedom, entertain the opinion that suspicion ceases to be a failing, where the questions relate to a science of facts, and where the character of the science, and the public health, (of which that science is the accredited, and should be the faithful guardian,) are involved in the issue."

MEMORANDA ON FRANCE, ITALY, AND GERMANY, WITH REMARKS ON CLIMATES, MEDICAL PRACTICE, MINERAL WATERS, &c. To which is added an Appendix on some of the Predisposing Causes of Disease, and on the Advantages of Travel and a Residence Abroad. By *Edwin Lee*, Esq. M.R.C.S. &c. 12mo. pp. 342. London: Saunders and Otley, 1841.

MR. LEE is very favourably known by his writings on the Spas of Germany. He is an intelligent English Surgeon, observant of what presents itself, and judicious in reflecting on it. All we can be expected to do is to notice a few points, which may seem to possess utility or novelty.

Climate of Paris.—The principal advantages which Paris has over London consists in the greater purity, clearness, and dryness of the atmosphere, its freedom from smoke and fog, and in the weather being less variable from day to day, as the summers are hotter, and the winters equally cold, if not colder. The average quantity of rain throughout the year, Mr. Lee conceives to be as great in Paris as in London. It would not, therefore, be advisable to select Paris as a winter residence for persons labouring under pulmonary complaints, (except perhaps some cases of asthma and sympathetic bronchial affection,) or rheumatism. Paris agrees very well with many dyspeptic invalids, to whom the light cookery of the French *cuisine* is better suited than the more substantial fare usually met with in Britain, which requires greater powers of digestion, always provided the invalid abstains from ragouts, rich sauces, or highly seasoned dishes, and from indigestible vegetables, as truffles or mushrooms. The valetudinarian who labours under depression of spirits, combined with disordered digestion, would likewise frequently find himself better after a few months sojourn in Paris, which offers more resources for mental relaxation and amusement than any other city, not excepting London. Baths are also more general, which is a great advantage to invalids.

Among the most prevalent diseases of Paris may be enumerated inflammations of the respiratory organs, (especially in the winter and spring,) consumption, typhoid fevers, intermittents, rheumatism, chronic inflammation of the stomach and bowels, various forms of dyspepsia, and scrofula. Apoplexy, paralysis, and nervous diseases in general, appear much less frequent than in England; where also indigestion is more common, especially among the commercial and trading part of the population, and those whose avocations are of a sedentary nature, as clerks and others who have much writing or head-work.

French and English Surgery.—"I consider that the English treatment of the majority of surgical cases is also much preferable to that of the French and continental surgeons in general; and I do not speak from slight observation, when I state my conviction that many cases become the subject of operations in France which would be cured in England. While allowing the French to have great merit as skilful operators, I have no hesitation in stating, that their attention is too exclusively directed to local applications, and the performance of operations, as the means of removing surgical diseases; whereas comparatively little is known of the general and constitutional treatment by medicines, in which the British surgeons so much excel, and which so frequently obviates the necessity of having recourse to the more mechanical part of the art. Even diseases of the eyes, which are so obviously influenced by general treatment, were a few years ago, and are still to a certain extent, treated in Paris almost entirely by local applications."

Disgraceful State of the Hospitals of Marseilles.—The hospital which contains the foundlings is especially badly ventilated; the children being placed two, and sometimes three together in the same cradle, swathed up so as to prevent movement of their limbs, and the curtains of their cots closely drawn. I could not refrain from expressing to the physician who accompanied me, my astonishment and indignation at this mode of treatment, which must annually cause the death of a considerable number. He was disposed to lay the blame upon the administration, who would not grant a sufficient number of cradles; but it must surely have been in his power to prevent the nurses from altogether excluding the air, by keeping the curtains closely drawn around the cradles, which were scarcely large enough to contain the infants. The worst managed of these establishments, however, is the hospital, or rather, as one of the directors of the administration of hospitals termed it, the place of detention for the insane. This gentleman expressed himself ashamed to conduct me through the establishment, and not without reason, as the state in which it is allowed to remain reflects discredit upon all who have to do with it, and upon the town. The patients walk about, or are huddled up in corners of the courtyard, (the women's department being separated by a wall from the men's) around which are small cells, with iron grating instead of windows, many of them dirty, and containing one or two beds, with no other furniture. Some were even without beds, the occupant lying in a corner upon straw; chains were lately occasionally made use of as a means of repression, but the strait waistcoat is now usually employed. At mealtimes each patient receives his portion of soup or bread, eating it in the courtyard, or in his cell. A few cells on the first floor are fitted up as rooms for patients whose friends pay for their maintenance, and who are separated from the rest, and are better fed. No medical treatment appears to be adopted, except depletion in cases of violent mania.

Peculiar agrémens of French Watering Places.—Notwithstanding its scenic beauties, and the efficacy of its waters, Bagnères would not be an attractive summer residence to most English visitors, unless fond of seclusion, as the French, when *aux eaux*, associate very little with those whom they have not previously known. There are no public *reunions;* the accommodations in most of the French baths are very inferior to those of the German; and the presence of vermin in the beds, &c., is not unfrequently complained of. Each family is served with dinners from a *traiteur's:* there are few *tables-d'hôte*, and those only at the larger baths, for the accommodation of travellers. With the exception of two or three places, living is not dear at the Pyrenean baths; persons, for instance, may be boarded and lodged during the season at Bagnères de Luchon or Bagnères de Bigorre for five or six francs a day. Both England and Germany are, however, deficient in hot sulphur springs; and in cases where they are indicated, there are none in Europe (Aix la Chapelle perhaps excepted) which are so efficacious as these of the western Pyrenees.

Bagnères de Bigorre lies near the foot of the *pic du Midi*, and is the largest and most frequented of the Pyrenean watering places; a great proportion of the visitors remaining more for pleasure than for health. The number of English is at times not inconsiderable from Pau or other places in the South of France, or Italy. Many persons likewise pass some time at Bagnères, after having taken a course of one or other of the springs in this part of the country. It stands seventeen hundred feet above the level of the sea; is encircled on all sides but the north by green hills and pine-covered mountains, and is consequently one of the coolest Summer residences in the Pyrenees. The resident population amounts to eight or ten thousand, and the resources for amusement are greater than at the other baths. Bagnères was a great place of resort in the time of the Romans, by whom it was termed *Vicus aquensis*. There are numerous well-shaded walks and roads in the immediate environs; those which are most frequented are the *Allées* Bourbon, the garden Theas, and the valley of Campan.

The bathing establishments are numerous; the principal one belonging to government, termed the *Thermes de Marie Therese*, is an elegant structure of white stone, the interior of the bathing cabinets being composed of different coloured marble. The baths are thirty-six in number, and are exceedingly convenient, each having a dressing-room attached to it; over the door is inscribed the name of the spring by which it is supplied. Those of *La Reine*, which is the hottest, and the *Dauphin*, are most used. There is likewise every requisite apparatus for douche and vapour baths. As the water is too hot to be used at its natural temperature, it collects into large reservoirs at the back of the establishment, where it is cooled.

Frascati's is another bathing establishment, and also a lodging-house, which contains the public rooms for balls, billiards, and the newspapers. A single person may board and lodge here for about six francs a day. Other lodging and bathing-houses are supplied by particular springs, as the *Pinac*, *Lannes*, *Petit Prieur*, *Santé*, &c.

All these springs are saline, and in their composition are not unlike those of Baden-Baden or Bath, though they contain much less saline substance. Their temperature ranges from 27° to 35° R.

What a delightful place Barèges is.—No spot would seem to be less calculated for the situation of a bath than Barèges which consists of a single street on the acclivity of the mountain, with the impetuous *gave de Bastan* foaming beneath. For nine months in the year the place is deserted, being left in the keeping of about twenty men, who pass the winter there to prevent its being occupied by the wolves, which not unfrequently take up their abode in the houses. As it frequently happens that the winter occupants are completely shut out from any intercourse with the valley by the snow, they are obliged to lay in a stock of provisions and fuel for three or four months, and on the return of fine weather, assisted by others from below, begin to clear the road, and ascertain the damage that has been effected; as many of the houses are every year carried away by the torrent, or overwhelmed by the avalanches. At the time of my visit in May, numerous workmen were employed in digging away the snow beneath which several houses were buried, and in getting the place a little in order for the season, which begins about the middle of June, from which period till September it is crowded with invalids, who certainly would not resort thither for pleasure, or unless they had learned from experience the efficacy of its mineral springs. This, by the way, may not be quite so certain.

In the centre of the street is a small square, on one side of which are the baths, on the other a military hospital, supported by government, for wounded soldiers, the number of which amounts to about four hundred, that of the visitors being about eight hundred, or a thousand, almost all of them invalids, and many who are not able to walk, or hardly to get about on crutches. There is only one table-d'hôte, and each party is served separately from a traiteur's; nor is there any society, and, as may be supposed, the climate is bad enough, so that existence in the place for several successive weeks would be unbearable, were it not for the benefit anticipated and experienced from the springs. In the bathing establishment there are sixteen private baths; but most of the patients bathe in the piscinæ or public basins. Douches are a good deal used, the water falling from a height of five or six feet from reservoirs through tubes about as thick as a man's forearm. The piscina for the hospital patients—but in which several visitors likewise bathe—is an oblong vaulted chamber with stone walls; the water is about three feet deep, and flows into the bath through a wooden trough, beneath which those who require the douche hold the affected part. About sixteen persons can bathe at the same time. The springs *la Douche*, *la temperée*, and Polard, are the most used; the temperature of the former is 44°, that of the second 33° R., and about 30° in the piscinæ, which are badly vintilated, and filled with vapour, which induces copious perspiration. There is likewise a piscina for indigent patients. The average number of baths required by patients is from thirty to forty. Though the springs are almost exclusively used for bathing, there is one drinking spring. They are strongly sulphurous, and more energetic in their action than any others in the Pyrenees, but they do not emit so disagreeable a smell as others of the same class, which contain a large proportion of sulphuretted hydrogen, as in these the sulphur exists principally in the form of sulphuret of soda. The cases in which they are most efficacious are scrofulous diseases of joints and other enlargements, rheumatic and paralytic, as bullets, pieces of clothing, &c. lodged in the body, (the expulsion of which not unfrequently takes place during the course,) and some eruptions on the skin.

Cauterets lies in the secluded valley of Lavedan, surrounded by scenery of the most romantic kind. It chiefly consists in a single street, which widens out into a square. The resident population amounts to about fifteen hundred, and about two thousand visitors could be accommodated in the season, during which period it is generally thronged, especially by the Parisians, with whom it is a favourite summer retreat. Apartments are, consequently, often exceedingly difficult to be obtained, and are mostly very dear In the square is the Hôtel du Cercle, where there are public rooms for reunions, but there is little general association among the visitors, so that a stranger who does not possess resources within himself, would, notwithstanding the magnificence of the scenery, find Cauterets but a dull residence. There are two or three tables-d'hôte, but they are not well attended. Cauterets has not the advantage of shaded walks, (the only rows of trees being in an enclosure behind the town, which serves for a promenade,) and from its being surrounded by lofty-peaked mountains, the summits of which are covered with perpetual snow, the reflection of the sun's rays must be, at times, severely felt, notwithstanding its elevated position: and what must be a great inconvenience to invalids, the bathing establishments, with one exception, are out of the town, some of them being at a distance of more than two miles.

The temperature of the springs varies from 21° to 40° R. The composition of the water is very analogous to that of other springs in this part of the Pyrenees, containing principally sulphuret of sodium, carbonate, sulphate, and muriate of soda, with carbonic acid and azotic gases in small quantities. The Raillière is the spring mostly used for drinking: it has a high reputation in pulmonary and nervous affections, and in dyspeptic cases.

Besides these springs, however, there are others in a different direction, which are much more sulphurous than the southern group, and are chiefly used for baths. The transitions of temperature are at times very great and sudden.

"Though the composition of some of these Pyrenean springs be not materially different, yet they differ considerably in the important circumstances of temperature and locality, and certain of them have acquired a special reputation in particular complaints. Thus, Barèges is recommended, *par excellence*, in cases of old wounds, ulcers, or long-standing affection of the bones; Bagnères de Luchon, in gouty, rheumatic, and cutaneous diseases; St. Sauveur in nervous complaints, and some local affections to which women are subject; while Cauterets, from the number of its springs, and the difference of their temperature, can be adapted to most of the above-mentioned indications. The greater number of patients are perhaps those labouring under the various forms of indigestion, and pulmonary complaints, or a tendency to consumption. The number of those with rheumatic and cutaneous diseases is likewise considerable."

How well adapted such a situation must be for the consumptive, we leave our readers to determine.

Climate of Nice.—Mr. Lee quite agrees with Sir James Clarke in the opinion that Nice is not suited for the Winter residence of consumptive patients, or those in whom there exists much irritability of the air-passages. The air is too sharp and exciting, and the occasional cold winds are severely felt. Those persons, however, in whom there exists a predisposition to consumption, or even those in the earliest stage of the disease, will often derive considerable advantage from passing November, December, and January, at Nice, provided there be not much acceleration of pulse or cough. The climate is generally of great service in chronic bronchial disease, particularly the catarrhal affections of elderly people, attended with copious secretion of mucus, and in those forms of asthma where there is little tendency to inflammatory action. I have known some persons labouring under these complaints who have passed several successive Winters at Nice. Patients with chronic gout, rheumatism, and paralysis, (the latter when not from apoplectic attacks,) as well as those whose general health has become deranged by a residence in tropical or unhealthy climates, will in general derive benefit from wintering at Nice; as will also many nervous hypochondriacal, and scrofulous patients, and those of a cachetic habit of body, with a languid circulation. Several of these cases will be likely to derive much more advantage from climate by the previous employment of mineral waters; the combination of these means offering, in my opinion, the greatest probability of cure and amelioration in long standing disordered states of the health, where a generally alterative and renovating treatment is indicated. I have, during the last seven or eight years, been in the habit of recommending many invalids, especially those with pulmonary complaints, to leave Nice before the middle of February, about which period inflammation of the lungs and bronchia is very common among the inhabitants. Several persons, by remaining throughout the Spring, have lost the advantage which they had gained during the preceding months; and though it may not seem to be a pleasant thing to travel at this season, yet, but little difficulty is experienced in proceeding to Rome or Pisa, as the coast-road to Genoa is always passible, and, except immediately after heavy rains, is in good condition. The constant passage of steam-boats likewise presents a rapid mode of conveyance to those who may prefer it.

Nice frequently disagrees with healthy persons of an irritable or plethoric habit, inducing headache or derangement of the digestive organs. The diet, both of those in health and invalids, will require particular attention, as several articles which agree very well in England, not unfrequently disagree with people at Nice. Wine, in particular, should be taken very sparingly. Those who remain during the Spring should avoid exposure to the sun's rays, by remaining in-doors in the middle of the day, or by carrying an umbrella, as there are no shady walks in the immediate neighbourhood of the town. Invalids should likewise avoid being out at sunset, as there generally arises an exhalation from the earth at that hour.

With respect to the choice of a residence, the Croix de Marbre appears to me to be the preferable situation for the majority of invalids. The villas in the neighbourhood of Cimiez are less convenient in many respects, especially with regard to dinners, which at Nice are usually sent from a *traiteur's*. When, however, a villa is preferred, one should be selected a little elevated above the plain, on account of the moisture which frequently arises from the irrigated meadows after sunset. The houses near the Corso, which have a southern aspect, are not objectionable; but those in the Piazza Carlo Alberto, and along the left bank of the Paglione, are less eligible on account of their northern aspect, and greater exposure to the winds, which sometimes sweep down the bed of the river with great violence. The *maison Gilli* is one of the best situated lodging-houses in the Croix de Marbre. There are also several new houses near the bridge not in an exposed situation. The *pension Anglaise* will be found a comfortable residence for small parties and single people.

Hospitals of Florence.—The hospitals here, as in many other parts of the Continent, are superintended by Government, and patients are admitted on application, without any other recommendation than that of their requiring medical assistance. The Spedale Santa Maria Nuovo is a handsome building, containing eight hundred beds; the wards are clean, spacious, and well ventilated.—The professional treatment of the sick is in general judicious, and somewhat similar to the practice followed in France. Among the town practitioners, the abstraction of small quantities of blood is very common, which has frequently the effect of debilitating the patients, without effectually checking the progress of inflammatory attacks. Aperients, tonics, and other substances which are considered irritating, are generally avoided.

The Spedale di Bonifazio contains about the same number of beds as the other hospital, and is divided into two parts: one for the insane, the other for persons afflicted with incurable diseases, and for military men.

The number of insane patients in this hospital is about three hundred. Small cells, each having a window with iron bars, and containing a bed, are placed on either side of passages about fifty feet long. Each patient has a cell to himself, but in the daytime they are allowed to walk about the passages and in the open courtyards. All are clothed alike in a white woollen dress. The greatest attention is paid to cleanliness throughout the establishment: patients on their first arrival are isolated, in order that the peculiarities of their malady may be observed by the physician. When confinement of the hands is necessary, a wooden case (*manchot*) is used, into which both hands are placed, and confined by means of a strap passing round the waist. Furious patients are sometimes placed for a short time in a small darkened room well padded round the walls, the darkness and solitude being found to render them more tractable: moral measures are but little adopted in the treatment, though some of the patients are employed in mechanical occupations or gardening; the women in knitting, spinning, &c. The system formerly in use, of employing depleting measures, every Summer, is now discontinued.

Medical Practice of Rome.—The treatment of disease inclines somewhat to that which was prevalent in France some years ago: small bleedings are considered by many of the local practitioners as an almost universal panacea. In fact, a great proportion of the surgeons are little else than mere phlebotomists, and are but little calculated to treat either medical or surgical diseases. The physician is usually called in to prescribe for the constitutional disorder induced by surgical disease or by accidents: the part of the surgeon being limited to local applications or bandages. Tonics or exciting remedies (among which are reckoned aperients) are in general avoided, though in the malaria fevers large quantities of bark are given with advantage; sedative remedies, as prussic acid, henbane, &c. are not unfrequently exhibited, but the treatment of acute disease is principally of the expectant kind.

Medical Treatment in the Neapolitan Hospitals.—No particular exclusive theory is followed in the treatment of disease, different practitioners having different methods; but small bleedings, frequently repeated, are very general, as in other parts of Italy; and numerous sign boards may be seen in the streets, at the barber-surgeons, representing the figure of a man with blood flowing in a full stream from the arms, legs, and neck. Stimulating, tonic, and laxative medicines are not frequently exhibited, but sedatives are more commonly used.

The most prevalent diseases are inflammation of the lungs and air-passages, consumption, rheumatic, gastric, and nervous fevers, and diseases of the eyes.

Death of Homœopathy in its Native Land.—"At the time of my former visit I was anxious to see the homœopathic hospital, of which I had previously heard, Leipsic being the head-quarters of this doctrine. I expected to have found at least forty or fifty beds filled with patients; but was rather surprised to find that the building (which is a small house in the suburbs) only contained eight, and even of these all but two or three were unoccupied. At my last visit to Leipsic I understood that matters were going on badly with homœopathy, which indeed is now comparatively little heard of in Germany and France, and only required to be understood by the public for its absurdity to be apparent, though there will always be credulous individuals who are to be caught by any novelty, when presented under a specious appearance, and backed by an unintelligible name. During its whole progress it never was sanctioned by any individual of eminence in the profession, and was principally taken up as a means of acquiring wealth or a livelihood by persons who had never been previously heard of, or who were known as having failed to acquire practice by the honourable exercise of their profession; by whom every means were taken to puff it into notice, and to keep public attention directed to it; such as repeated histories of cures, the establishment of dispensaries, of which, I believe, the only one that remains is the abovementioned at Leipsic, even if it be still in existence, for a few months before my arrival the house-physician having become convinced, during a residence of some time in the dispensary, of the nullity and danger of homœopathy, gave up his appointment, and published an exposition of the system pursued, with an account of cases, which clearlyshows—what had long been evident to the bulk of the the profession and the public—that the so-called cures were recoveries from ordinary ailments by the efforts of nature, which were frequently a long time under treatment, whereas, by a proper medication and attention at the outset, they might probably have been removed in a few days, and that many of the more serious cases got worse instead of better, for the want of active treatment. It must not be supposed that the homœopathists always adhere to the principles of the doctrine. It has not unfrequently happened that persons who attributed their recovery to homœopathy were treated allopathically without their being aware of it. In fact, one practitioner in Leipsic, a professed homœopathist, candidly acknowledged that he pursued both plans of treatment, and was accustomed to ask his patients by which method they would be treated, as both were equally good."

We suspect that all homœopathists are not equally candid. The clever rogues prescribe allopathy, while they talk homœopathy. But the reign of any particular humbug (there is really no name so appropriate, albeit coarse) is short-lived —though the stock is so extensive that it is never worn out, and the market good enough to make it worth while to keep *some* article always upon sale.

We think our readers will agree with us that Mr. Lee's book contains a good deal both of amusement and of information.

AN INQUIRY CONCERNING THE DISEASES AND FUNCTIONS OF THE BRAIN, THE SPINAL CORD, AND THE NERVES. By *Amariah Brigham*, M. D. New-York. 1840.

THE object of this useful little book is to direct attention to the diseases of the nervous system, diseases which have increased, and probably will still increase, with the advance of civilization.

The nature of the work precludes any thing like an analytical account of it. We may pick out, however, some passages for notice.

Division of the Skull into Regions.

Dr. Brigham regrets that this has not been agreed on, for the purpose of rendering descriptions of injuries exact and clear. He recommends the following division of the cranium.

Let a line from the root of the nose to the middle of the back of the neck, corresponding to the longitudinal sinus, be called the *median line.* Let another from the meatus externus of one side be extended over the head to the other, called the *transverse line.* Then describe the injuries of the skull in reference to these lines, by inches and parts of inches.

For example, the precise situation of a wound would be made known, if said to be on the right or left side, and an inch and a half anterior to the transverse line, and an inch from the median. Its situation might, in some cases, be better understood by referring to other marked points on the head, as the eyebrows, and their angles.

Summary of the Results of Pathological Investigations.

Dr. Brigham observes that the better part of what we know of the functions of the brain has been derived from pathology. Experiment has been peculiarly barren of results. The following is his resumé of what has been determined. We fancy that *it* must be taken with a reservation.

First.—That the cerebral lobes, or the hemispheres of the cerebrum, are the seat of intelligence.

Second.—That the cincritious portion of these lobes, probably, is, the seat of the mental faculties.

Third.—That the fibrous or medullary portions of the brain are connected with the motive powers, and transmit volition and sensation.

Fourth.—That the lobes of the cerebellum are not connected with the manifestations of the mental powers, but are with the motive; and appear also to be with the sexual propensity, and that the sympathy between them and the stomach is intimate.

Fifth.—That all the faculties of the mind may be manifested by one hemisphere of the brain.

Sixth.—That the different parts of the brain have different functions, and that the anterior portion of the cerebral lobes play the most important part in manifesting the mental powers, and appear to be the seat of the memory of words, events, and numbers.

Seventh.—That the striated bodies and the thalami are intimately associated with the motive powers of the extremities.

Eighth.—That parts in the middle and at the base of the brain, such as the fornix, corpus callosum, septum lucidum, pituitary body, and pineal gland, are not connected with the mental faculties.

Increase of Inflammatory Diseases of the Brain.

Dr. Brigham refers, as a striking proof of this, to the *Report of the City Inspector of the Interments in the City and County of New-York* for above thirty years, from the commencement of making returns of deaths to the City Inspector in 1804 to the year 1838.

From the tables of the deaths from different diseases it appears that, while the population of New York has only quadrupled in the last thirty years, the deaths from inflammatory affections of the head, or from inflammation and dropsy of the brain alone, has increased more than twelve fold.

In the six first years of this period the deaths from these two diseases, which may be regarded as identical, were as follows:—

	1805.	1806.	1807.	1808.	1809.	1810.
Inflam. of brain,	17	16	15	17	18	12
Dropsy do.	16	22	30	28	28	42

	1833.	1834.	1835.	1836.	1837.	1838.
Inflam. of brain,	101	120	150	159	161	155
Dropsy do.	305	347	382	268	365	368

The population of the City of New York has risen during this time as follows:—

1805	75.770
1810	96.373
1815	100.619
1820	123.706
1825	166 086
1830	197.112
1835	270.089

It will be perceived that the most alarming increase has been of dropsy of the head, an inflammatory affection of the membranes of the brain and mostly confined to children.

It also appears that the same diseases have of late greatly increased in England and France.

According to the late Dr. Davis, of London, eight out of forty-five deaths, in the *Universal Dispensary* were produced by Dropsy of the brain, and Dr. Allison states that forty out of a hundred and twenty patients die of this disease in the *New Town Dispensary*, London. Marshall, in his Mortality of the Metropolis, London, from 1629 to 1831 says that since 1790 deaths from dropsy of the brain have been on the increase and to an alarming extent, the number being for the last few years about 800 per annum.

Dr. Coindet says that 20,000 deaths annually occur from the same disease in France.

Dr. Brigham very naturally attributes this to overdone cultivation of the intellect, on the part of the parent and offspring.

History of St. Vitus.

Perhaps this may be new to most of our readers.

"He, St. Vitus, was a Sicilian youth who, together with Modestus and Crescentia, suffered martyrdom at the time of the persecution of the christians, under Diocletian, in the year 303. The legends respecting him are obscure, and he would certainly have been passed over without notice among the innumerable apocryphal martyrs of the first centuries, had not the transfer of his body to St. Denys, and thence, in the year 836, to Corvey, raise him to a higher rank. From this time forth, it may be supposed that many miracles were manifested at his new sepulchre, which were of essential service in confirming the Roman faith among the Germans, and St. Vitus was ranked among the fourteen saintly helpers (Nothhelfer or Apotheker). His alters were multiplied, and the people had recourse to them in all kinds of distresses, and revered him as a powerful intercessor. As the worship of these saints was however at that time stripped of all historical connexions, which were purposely obliterated by the priesthood, a legend was invented at the beginning of the fifteenth century, or perhaps even so early as the fourteenth, that St. Vitus had, just before he bent his neck to the sword, prayed to God that he might protect from the dancing mania all those who should solemnize the day of his commemoration and fast upon its eve, and that thereupon a voice from heaven was heard, saying, 'Vitus, thy prayer is accepted.' Thus St. Vitus became the patron saint of those afflicted with the dancing plague, as St. Martin, of Tours, was at one time the succourer of persons in small-pox; St. Antonious of 'those suffering under the hellish fire,' and as St. Margaret was the Juno Lucina of puerperal women."

Influence of Attention on Bodily Organs.

Dr. B. devotes a few pages to this subject. A not uninteresting nor unimportant one. He assures us that he has seen tumours, ulcers, and eruptive diseases increased and perpetuated, solely by mental attention directed to the disordered part.

Diseases of the eyes are thus increased, also diseases of the urinary organs. Bowel affections, particularly diarrhœa, are aggravated and sometimes caused by mental attention. During the prevalence of the Asiatic cholera in America, when every person had heard of the premonitory symptoms, there were but few who did not have some of these symptoms, especially griping pains in the abdomen, flatulence, diarrhœa, &c.

In prisons, where the discipline was such as to prevent any communication of intelligence from without, the cholera was not heard of, and did not prevail among the prisoners.

"So strict is the seclusion, says Mr. Crawford,* in the Eastern Penitentiary, Philadelphia, that I found, on conversing with the prisoners, that they were not aware of the existence of the cholera which had but a few months before prevailed in Philadelphia.

To their ignorance of the existence of the cholera may doubtless be ascribed, in a great measure, their preservation from this disease, not a single convict having been attacked by it during the whole period that it prevailed in the city of Philadelphia, although the hospital for the reception of patients was in the neighborhood of the prison. The powerful effect of alarm on the bodily system was singularly illustrated at this period at the Massachusetts State Prison. The chaplain having taken occasion one Sunday, from the pulpit, to advert to the ravages of the cholera, most of the prisoners who composed his congregation were, on retiring to their cells, seized with a complaint which it was greatly feared would lead to, but which happily did not terminate in, malignant cholera."

Some of the disorders of the air-passages, of the larynx, trachea and bronchia, are kept up by attention. Some coughs are thus aggravated.

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*Report of William Crawford, Esq. on the Penitentiaries of the United States, addressed to his majesty's principal Secretary of State for the home department. 1835, p. 11.

Affections of the fauces and throat are kept up by the same cause. Every one knows that attention to the act of swallowing increases the difficulty of performing it. If there is some soreness of the throat, this attention produces more disordered action, more soreness, and more difficulty in swallowing and speaking. Dr. B. conceives that this often perpetuates soreness of the fauces and difficulty of speaking, of which clergymen have of late years complained.

This latter affection we have generally found occasioned by relaxation of the mucous membrane of the palate and fauces. Actors are liable to the same thing, which is occasioned no doubt by over exertion of the parts.

"In some instances," says the Doctor, "I have known the attention of clergymen, when thus affected with soreness of the fauces, and apprehensive of a protracted disease, to be diverted from their complaints by strong mental anxiety, and then recovery rapidly ensued. I have also known severe affection of the throat of the kind alluded to, disregarded by clergymen after a few days of ordinary medication, and have known them to preach with the soreness still upon them, and yet recover rapidly.

As I have said there are some cases of soreness of the throat and loss of voice depending on other causes, that are truly deplorable, often protracted for a long time and not unfrequently incurable. These arise from some affection of the brain, or of the nerves distributed to the organs of the voice Sometimes the affection of the brain or nerves is only functional, arising from some overwhelming mental emotion, such cases may continue for a considerable time and then suddenly recover Sometimes they yield suddenly to strong mental emotion, as anger. Laughter cured in one instance.

But in other cases the affection of the brain or nerves, that causes the loss of voice, depends upon some alteration of structure, and may be incurable. The injury of the nerves of voice, which prevents them from duly performing their functions, causes soreness and inflamation of the parts to which they are distributed."

Dr. Brigham remarks, that not only will mental attention aggravate, but it will also relieve disease. Kant was able to forget, by the strength of *thought*, the pains of gout and other diseases. The mental effort, he says, required great effort of the will and caused the blood to rush to his head, but never failed to afford relief.

The influence of the mind—of mental emotion, in causing and curing disease are altogether too much disregarded by medical men, While grief, fear, remorse, are as depressing as any measures we ever resorted to, hope and faith are more powerful tonics than bark and wine. Innumerable are the instances that might be adduced in proof of this. Let the following suffice. When the plague raged at Messina, in 1743, the second of July, the Tutelar Deity, (Holy Mary, mother of God,) was taken down and carried in procession through the city. The plague stopped immediately.

In the life of Lord Chief Justice Holt, says Armstrong, a curious anecdote is recorded. When a young man, Holt had a flow of animal spirits which could not well be restrained, and he happened on one occasion, with some companions, to stop at an inn in the country, where they contracted a debt of such amount that they were unable to defray it. In this dilemma they appealed to Holt to get them out of the scrape. Holt observed that the innkeeper's daughter looked remarkably ill, and was told by her father she had an ague. Hereupon he gathered several plants and mixed them together with a great deal of ceremony, afterwards wrapping them in a piece of parchment, upon which he had scrawled certain letters and marks. The ball thus prepared he hung about the young woman's neck, and the ague did not return. After this, the never-failing doctor offered to discharge the bill, but the gratitude of the landlord refused any such thing, and Holt and his companions departed. When he became Lord Chief Justice a woman was brought before him accused of being a witch. She was the last person tried in England for whichcraft. She made no other defence than that she was in posession of a certain ball which infallibly cured ague.—The ball was handed up to the judge, who untied it, and found it to be the same identical ball which he had made in his youthful days for the purpose of curing the woman's ague and paying his own bill.

Dr. Brigham collects several cases illustrative of the effects of mental excitement and depression. The following is, we dare say, known to many of our readers.

The late Mr. Pott was called in consultation on a surgical case; it was suspected that the patient had stone in his bladder. Mr. Pott examined him found a stone, and abruptly said, I congratulate you on having your complaint perfectly known, for you may be cured by an opperation. He observed a remarkable change in the patient's countenance, and having left him, went home. His assistant called in the evening and found the man dead.

In conclusion we think that the reader of this unassuming little work will obtain a good deal of instruction.

THE CURE OF STRABISMUS BY SURGICAL OPERATION. By *William Mackenzie*, M.D &c. Being an Appendix to his First, Second. and Third Editions of his "Practical Treatise on the Diseases of the Eye." 8vo. pp. 30. London: Longman & Co. 1841.

MR. Mackenzie's reputation commands attention for everything which falls from him connected with ophthalmic surgery. The present brochure on the operation for strabismus presents us with a very useful account of all that has been ascertained upon the subject. It is quite a manual on the matter.

We shall select some portions for notice.

Mr. Mackenzie's Method of Operating.—The opposite eye being covered with a compress and roller, an assistant standing behind the patient, with the forefinger of one hand raises the upper eyelid, and with that of the other depresses the lower.

The operator, standing before the patient, desires him to turn his eye, as much as he can, in the direction which puts on the stretch the muscle about to be divided. If the case is one of convergent strabismus, he desires him to look outwards to his temple; if it is one of divergent strabismus, he desires him to look inwards to his nose.

We shall suppose the case to be one of convergent strabismus. The reader will easily conceive that many of the observations which occur in these pages regarding the cure of convergent strabismus, may be applied to that of the divergent variety by substituting *abductor* for *adductor*.

The steps of the operation, then, are as follows:—

1. With the forceps, the operator lays hold of the conjunctiva transversely, midway between the edge of the cornea and the caruncula lacrymalis, and raises it in a horizontal fold.

2. With the scissors, he snips this fold through vertically, along with the subjacent cellular substance, and then enlarges the incision, thus begun, upwards, and downwards, so that it extends to half an inch in length.

The incision should not be nearer the cornea than half-way between its edge and the caruncula, lest in attempting to pass the blunt hook under the tendon, the operator find it impossible to do so, from the close attachment of the tendon to the sclerotica; nor ought it to be farther from the cornea, else the ope will require to penetrate deep by the side of the eyeball to reach the muscle.

The conjunctiva is merely to be slit up to the extent specified; it is not to be dissected from the subconjunctival fascia, nor is any portion of it to be cut away. In this way the wound will heal more readily, and the eye be less apt to protrude after the operation.

The incision of the conjunctiva is generally made in a vertical direction. In operating for divergent strabismus, it appears to be Mr. Elliot's plan to open the conjunctiva horizontally. Perhaps the incision made in this direction will gape less than a vertical one, but more separation of the membrane from the subjacent fascia will be required, to bring the tendon into view. A frænum will also be apt to form between the cicatrice of the conjunctiva and the external canthus.

3 The patient again averting the eye as much as he can; and the parts, if obscured with blood, being sponged, the operator insinuates the point of the blunt hook under the lower edge of the tendon of the adductor, and slides it up between the tendon and the sclerotica, till its point appears above the upper edge of the tendon. If there is any difficulty in bringing out the point of the hook at the upper edge of the tendon, from its carrying the fascia before it, the operator snips this through with the scissors, and frees the point of the hook.

In this part of the operation, unless the incision be nearer than usual to the cornea, or the operator take the trouble of removing a portion of the fascia, it is rarely the case that the fibres of the tendon are distinctly perceived. They are obscured by the fascia, which is now generally injected with blood. The operator, therefore, introduces the point of the hook where he thinks the lower edge of the tendon should be, and pressing it close along the surface of the sclerotica, he takes up on the hook every thing that lies between the sclerotica and the surface exposed by the incision of the conjunctiva. The hook, entering the cavity of the capsule, where the cellular connexion of the tendon to the sclerotica is naturally very loose, is easily passed beneath the tendon. This part of the operation, therefore, gives little pain, unless the hook is not sufficiently bent, or the bent part too long, so that it must be brought out over the the eyelids, and by putting the muscle on the stretch, drag severely on the eyeball.

It is seldom that the patient is unable to avert the eye sufficiently, to allow the first and second steps of the operation to be performed, with no farther assistance than what has now been mentioned; but it sometimes happens that he cannot continue the eversion, at least to the necessary degree, to permit of the third step. In this case, the operator lays hold with the sharp hook, of the tunica tendinea, or, in other words, of the tendon of the muscle, where it is exposed throug the incision of the conjunctiva, and without passing it deeper than the surface of the sclerotica, he moves the eye into the averted position. This he effects with a very slight degree of traction. He then intrusts the sharp hook, thus fixed, to an assistant, and proceeds to pass the blunt hook.

If artificial eversion is called for at the commencement of the operation, which sometimes is the case, especially in children, the operator passes the sharp hook through the conjunctiva and into the tunica tendinea, about one-fifth of an inch from the inner edge of the cornea, and having drawn the eye into the position required, intrusts the sharp hook to an assistant, till the first, second, and third steps of the operation are completed. After the blunt hook is passed under the tendon, the sharp hook may be removed.

At whatever step of the operation the sharp hook is used, it must be fixed in the tunica tendinea. It is useless to fix it in the conjunctiva; as this membrane, when we endeavour to move the eye by traction on the hook, yields, and slides away from the subjacent textures. To penetrate through the sclerotica with the sharp hook, is unnecessary.

4. The operator now takes the blunt hook in his left hand, and carrying the handle of it towards the temple, with the scissors he immediately divides, in ordinary cases, the tendon of the muscle from below upwards, and nearer the caruncula than where it is over the hook.

In this manner of operating, the muscle will most frequently be divided just where the tendinous part meets the fleshy fibres.

If the distortion is slight, the handle is to be carried over the nose, and the tendon divided nearer the cornea than where it lies over the hook, and close to its insertion.

If the distortion is great, the operator, before proceeding to use the scissors, should separate a considerable portion of the internal surface of the muscle from the sclerotica. Dr. Ammon does this by pressing the blunt hook repeatedly towards the cornea, and back again towards the caruncula. Mr. Elliot, for the same purpose, introduces a second hook, and steadies the eye by means of the one already under the tendon. The tendon being then drawn into view, the muscle is to be divided. If hypertrophied, a part of it should be cut out, which is best accomplished by passing a ligature under it with a blunt needle, tying the ligature upon the muscle, dividing the latter nearer the caruncula than where it is within the ligature, and lastly, cutting off the ligature, with a portion of the muscle which it embraces.

If, in the third step of the operation, only a portion of the tendon, and not its whole breadth, appears to be upon the blunt hook, the division with the scissors should not be immediately proceeded with; but, with another and smaller blunt hook, the operator should take up the remaining breadth of the tendon, and having divided this portion with the scissors, proceed to divide the principal portion, which he has on the first hook. It must be remarked, however, that when the tendon is raised and drawn forwards on the concavity of the blunt hook, it sometimes assumes a round and contracted appearance.

If the operator has any doubt about his having divided the whole of the muscle, he should not proceed to ascertain the position of tho eye, and much less incautiously announce to the patient that the operation is finished, until he has examined with the blunt hook, and snipped across any portion which may have escaped. The mark of the semicircular insertion of the muscle, with its minute tendinous fibres, adhering to the sclerotica, will show distinctly that the muscle has been divided.

Such, then, is the operation for convergent strabismus. That for the divergent variety is generally considered rather more difficult, owing to the greater narrowness of the space between the eyelids, and the insertion of the abductor being farther from the cornea than that of the adductor. As to this, a good deal will depend on the size and prominence of the eye.

Upon the same general plan, the levator or depressor is to be divided, in cases of distortion upwards or downwards.

Unfavourable Effects of the Operation.—Some of the unfavourable effects which are apt to arise from the operation are trivial, but others are important.

1. The white cicatrice of the conjunctiva, in the situation of the wound, is of no moment.

2. The eye which has had its abductor divided, presents a greater gap between the cornea and caruncula than natural, the lids appear more open, and the eye more prominent and convex at the nasal angle. This arises from the drawing of the eye forwards by the two oblique muscles, which are no longer perfectly antagonized. If the plan of dividing part of the levator or depressor, in addition to the division of the adductor, were followed, the eye would be particularly liable to project unnaturally.

If both eyes have been operated on, both are rendered more prominent than natural, but being equally so, the circumstance attracts less notice. When only one eye projects, and the projection is great, the physiognomy is very remarkably and disagreeably affected. This affords a reason for operating on the opposite eye, if it presents the slightest degree of strabismus. If we venture to operate on a straight eye, or on one but slightly distorted, for the purpose of equalizing the projection of the two, the tendon should be divided, close to its insertion, and with as little separation of its cellular connexions as possible, for fear of eversion.

3. Whether one eye only or both have been operated on, double vision is not an unfrequent effect. In this case, parallelism of the eyes has not been perfectly restored. If the adductor of one eye has been divided, and the eye is thereby everted in any degree, double vision occurs when the patient looks straight forward, or towards the other side. In general, this effect gradually subsides as the eye recovers the power of adduction, by the action of the inner fibres of the levator and depressor, and the re-adherence of the divided muscle to the sclerotica. The patient should be instructed to look forward at objects, and to avoid looking to a side, especially to the side which increases the double vision, by causing divergence: to the left, for instance, if the right adductor has been divided. Except where each eye, being shaded in its turn, remains straight, tying up one of them only prolongs the evil.

4. One of the most annoying consequences of the operation is extreme eversion of the eye, when the adductor has been divided. Too great a separation of the muscle, and dividing it too far from the cornea, are the causes of this effect; which is still more apt to occur, if, in addition to these causes, the motions of the eye had been previously free and the distortion slight, or if both eyes have been cut. Eversion may also be brought on, soon after the operation, by the patient's looking too much to the side.

Extreme eversion is attended by a disagreeable expression of countenance, giddiness, and such a degree of double vision as unfits the patient for pursuing any employment, and even for walking about, with both eyes open.

The moment the surgeon observes a tendency to eversion, he should caution the patient against turning his eyes much to either side, and especially against such lateral motion as produces divergence of the optic axes; and should recommend him to look always straight before him, and to exercise his eye frequently on near and small objects. If the opposite eye does not become distorted on being closed, it should be bandaged for four or five weeks. If the eversion continues after this, the abductor should be divided. If the eye is inverted after an operation for divergent strabismus, the adductor may require to be divided, should such exercise of the eyes as tends to diminish the convergence, viz. looking forward at distant objects, prove unsuccessful. The division of the antagonist muscle, in either case, will allow the eye to resume its position in the centre of the orbit, and the lateral motions will be performed by the re-adhering muscles, and by the levator and depressor.

The mutual divergence which generally exists in cases of eversion, occurring after division of the adductor, may be remedied by operating on *either* abductor. In a patient operated on by Mr. Charles W. G. Guthrie, after the adductor of the inverted eye was divided, it gradually became everted. The case was now one of mutual divergence. After some weeks, the abductor of the better eye alone was divided, which cured the eversion of the other eye, without any interference with its abductor. Mr. Guthrie's explanation or theory is not satisfactory. He mentions that from a train of reasoning he was led to select the better eye, as an operation on it alone would cure the eversion. This is not the case. The division of the other abductor would with equal certainty have removed the mutual divergence, though objectionable on account of the prominence it would have left from the division of two recti of the same eye.

Alternating eversion, on looking to either side, sometimes follows an operation for convergent strabismus. After division of the adductor of one eye, for example, it has happened that the patient, on looking at any object placed straight before the eyes, directed the axes of both correctly, so that no obliquity could be detected, and vision was single. If, however, without turning his head, he regarded any object placed a little to either side, the eye of that side was instantly everted to a very considerable extent.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

M. Forget's Letter to M. Andral on Modern Humorism.

The readers of the two last Numbers of the *Medico-Chirurgical Review* have probably perused the copious extracts which we have given (in the Foreign Periscope) of the lectures recently delivered by M. Andral on the changes of the blood in various diseases. Coming from so high an authority on pathological subjects, they could not fail to attract much notice from his countrymen, who, it is well known, have been so long, and still are, deeply imbued with the doctrines of *Broussais* and his disciples.

Fortunately for the progress of practical medicine in *this* country, these doctrines have never obtained so much favour, nor influenced to the same extent the minds of the profession here as on the Continent; we say *fortunately*, because we believe that nothing has more contributed to vitiate the practical value of most French medical writings than the all-pervading spirit of what has been most absurdly called the "Physiological System." That any system should be called physiological, which confines itself to the study of the *solids* of the body, and totally excludes all consideration of the *fluids*, is surely a very strange misapplication of language; but such is the influence of dogmatism in medicine that we do not remember having ever met with any exposure of the fallacy in a single work which has, during the last ten or fifteen years, issued from the French press.

On numerous occasions, while commenting on the selections from foreign periodicals in this Journal, have we alluded to this strange error of our continental brethren; and it is therefore probable that few of our readers have allowed their minds to be deluded by it. Indeed there is something so essentially practical in the character of Englishmen, that any mere dogma, however ingenious, and however earnestly it may be insisted upon, is not likely to prevail with them for any length of time, if its precepts are not found to be consonant with the results of experience. The doctrine of the inflammatory origin of almost all diseases, as taught by the so-called physiological school, was therefore not likely to gain many adherents in this country, and in the present day the term of *gastro-enterite* is, on the whole, rarely met with in our medical literature.

If this were a topic of merely speculative interest, it would not be worth while to occupy the attention of the public with it; but it cannot be so: for the treatment of diseases will necessarily always be more or less influenced by, if not actually based upon, the opinions that are formed of their proximate nature and of their origin. Now there is no class of diseases on which it is more important to have rational ideas than that of fevers. They are in their very character, the mode of their developement, the varying features they present, their wide-speading extension, their repugnance to curative means, their often fearful devastation, and the inconstant and unsatisfactory traces of their action left behind in the dead body, the most puzzling of all the maladies to which flesh is heir to; and unfortunately it seems but too probable that they will remain so, unless indeed we can discover some other means of detection and close-prying observation than we at present possess, or discover some new chemical agents which can control and resist them. That they arise from the operation of some miasmatic—(we are aware that the meaning of the word is most ambigious)—influence, which acts as a poison on every part of the human economy, cannot, we think, be well disputed; and we have thus been always led *à priori* to infer that their chief, if not their primary, action is on the fluids of the body. We have therefore hailed with much pleasure the efforts recently made by M. Andral and other good observers, both in France and in this country, to discover the changes which the various fluids undergo in fevers as well as in other diseases.

The following letters will perhaps sufficiently explain themselves; we could indeed have wished that that of M. Forget had been more perspicuous; but as it is, we give most of its leading paragraphs literally translated.

My dear and much honored Master.

It was a practice among the learned men of former times to address each other in familiar letters, in which they mutually suggested and discussed the leading questions of professional interest that happened to arise at the time. It is to this practice that we are indebted for the beautiful answers of *Sydenham* to *Robert Brady*, *Henry Paman*, and *William Cole*, on the medical constitutions of the seasons, and on the veneral disease, smallpox, and hysteria: and also for those valuable replies, full of medical wisdom, addressed by Tarti to Muratori. No method, it seems to me, can be more favourable to the development of our ideas than this epistolary correspondence; for, while free scope is given to the expression of our thoughts, the veneration and respect due to certain men restrain us within the bounds of courtesy and gentlemanly propriety. In the arena of science, as well as in the saloons of fashionable life, is it not becoming that well-born men should always address each other with politeness (chapeau bas)? and moreover is it not much more easy to understand each other when thus mutually cautious, than under the double irritative influence of anger and contradiction, feelings which so often give rise to those furtive, and consequently often most unbecoming personal attacks, so common in the pages of our medical journals?

Be pleased therefore to accept with favour this address of one of your pupils, who has become in his turn a teacher of others, and one whom his position calls upon to explain every subject connected with a science that is entrusted to his teaching, A minister of this religion, whose object is the life of our fellow men and whose symbol is humanity, speaking in the face of an enlightened public to a master whom I love and venerate, my pen can surely give expression to nothing save the most cordial convictions of profound respect and admiration.

......When we see the most able and candid observers successively sapping the fundamental principles of their predecessors; when we see a new chemical or microscopical analysis overturning the results of former enquiries; when we see authors differing from each other even as to the physical qualities, such as the colour and consistence, of the blood, is it not natural and at the same time prudent to admit with reserve the recently announced discoveries on the humoral conditions of this fluid in different classes of diseases?

......A most important result of your researches is the nosological inference that, while genuine inflammatory diseases are characterised by an *excess* of fibrine in the blood, there is a *diminution* of this constituent in fevers. If this conclusion be found to be accurate, you have achieved a most Herculean task; for with a strong hand you have sealed the long disputed traditions of antiquity, and at the same time you have cut short the interminable discussions of modern essentialists and localisers. You have with one stroke defied Galen, and utterly overthrown Broussais.....

Certain difficulties have presented themselves to my mind in the consideration of some of the results of your researches: these I will now submit to your attention.

You state, " in the inflammations called primitive, as in pneumonia, the fibrine of the blood is in excess." What will be said to this assertion by those gentlemen, like M. Cruveilhier and many self-called Hippocratists, who consider every inflammation as secondary, and tell us that pneumonia is just as much secondary in its nature as variola or follicular enteritis? You will no doubt reply to this by appealing to the difference in the quantity of the fibrine of the blood in these diseases, a difference which, in your opinion, is sufficient to demonstrate that this nosological fusion is radically wrong. Be it so; it is still a subject of dispute.

Again, you state:

"In fevers, (exanthemata, typhus) the proportion of the fibrine is, in the greater number of cases at least, diminished—unless," you add, "there exists an intercurrent inflammation, which immediately raises the quantity of the fibrine." Now here, in my opinion, our real difficulties commence. And first, we may suggest, it would be very desirable that this diminution were met with in all simple cases; otherwise, advantage will be taken of the exceptions to contest the truth of the principle. Then again, if the fibrine resumes its excess, whenever a concomitant inflammation makes its appearance, may we not infer that the opposite condition of the blood—that wherein the quantity of the fibrine is below the healthy standard—must be the exception and not the general rule? For is there not a concomitant inflammation in every eruptive fever? unless indeed we are to admit that the pustules of smallpox, the *dermitis* and angina in scarlet fever, and the *dermitis* and bronchitis in measles, are not general inflammation. But, pray, what is a morbid action characterised, as the smallpox pustule is at its different stages, by redness, heat, swelling and suppuration, if it is not inflammation? Perhaps, indeed, it may be objected that such inflammations are of a secondary nature, or of a specific character; but pray what are we to understand by such subtle distinctions?

Now as I am fully persuaded that folicular enteritis is almost invariably present in typhus, and as this enteritis cannot be regarded otherwise than as a concomitant inflammation, we might surely expect to find that the quantity of the fibrine in the blood is increased rather than diminished in the course of the disease,—since, according to your own principles, the occurrence of inflammation during a fever is always attended with such a condition of the circulating fluid. For I must confess to you that follicular enteritis is in my eyes an inflammation, until some one has shewn me that it is something else, and that redness, swelling, heat, ulceration and suppuration combined, are not the inherent characters of this morbid action.

Another important and fundamental question, on which, if I mistake not, you have not been sufficiently explicit, is whether the diminution of the fibrine in eruptive and typhoid fevers is initial and primitive, or consecutive and accessory, or whether it be a preceding lesion. This seems to me most essential to determine; for if the defect of the fibrine be primitive, if it be the germ of the disease, the great therapeutic indication in its treatment must be to destroy and eradicate this germ. If such be the case, must we not consider that Sydenham has been wrong in the principles which he has laid down for the management of febrile disorders? and that the Brunonian practice is greatly to be preferred to that recommended by Broussais?

Now though ordinary practice has proved the superiority of antiphlogictic treatment in the cure of these diseases in general, I admit that this circumstance is not in itself sufficient to overturn the alleged fundamental fact of the deficiency of the fibrine; for it must be allowed that there are not a few facts in medicine which, although we cannot explain, we must not refuse our assent to; but still it will surely be acknowledged that the circumstance cannot fail to startle us, and make us somewhat distrustful of the discoveries you have announced.

But if, on the contrary, the deficiency of the fibrine be secondary, and consecutive to some other morbid element of an earlier and more constant occurrence—as the follicular enteritis seems to me to be—then your discovery loses much of its value at least in a practical and therapeutic point of view; for my own part I should have no reluctance to admit it; all that I have pretended to demonstrate being, that in follicular enteritis the alteration of the blood, were it more constant than it really is, is a secondary and not a fundamental phenomenon of the disease. As to the condition of the fibrine more especially, I have remarked

(De l'Enterite Folliculeuse, p. 518) "that there is nothing after all surprising that a morbid state which vitiates the process of nutrition at its very source should cause a change in the *crasis* of the blood." Now as you speak of *typhoid* fevers, and as the typhoid state is at first by no means uniform, and far from being, in all cases, an initial phenomenon in follicular enteritis, it follows that even you perhaps may regard the diminution of the fibrine as only a secondary phenomenon. You see, my much honoured master, that a word on your part on these important matters is not less necessary than desirable.

But I am still more anxious to learn your opinion as to the therapeutic indications to be derived from your humoral discoveries of the state of the blood in typhus and other fevers. Do, therefore, inform us whether the deficiency of the fibrine requires, or not, a tonic and nutritive regimen? or whether it is compatible with the lowering system which is generally adopted in the present day?

There are several other points on which I long to hear your sentiments; but these must be deferred at the present time. May I, in conclusion, solicit an answer to the following three questions?

1. Is the diminution of the fibrine of the blood the most constant element of serious (graves) fevers? is it, for example, more constant than follicular enteritis?

2. Is the diminution of the fibrine primitive? or, at least, is it anterior to the follicular enteritis?

3. Does the diminution of the fibrine involve some fundamental modifications in the treatment of the disease? and are we to prefer a tonic to an antiphlogistic regimen?—*Gazette Medicale.*

M. ANDRAL'S ANSWER.

My dear and honoured Confrere,

Your letter has warmly excited my interest, since I must suppose that the doubts, which have suggested themselves to a mind like yours as to the value of the results which my researches on the state of the blood have led me to, have occurred to many other medical men, and I thank you for giving me an opportunity of endeavouring to explain them. I shall do this the more willingly as it is to you, my dear confrere, whose character and talents I so much esteem, that my reply is addressed. I perfectly concur with you in the sentiment expressed in the commencement of your letter. You regret, and I also regret, the want of those scientific correspondences, of which our illustrious predecessors have given us many examples, and wherein they have joined in discussion on professional subjects with no little benefit to the advancement of science. I congratulate you in having recalled these recollections, and I trust that your letter and my answer may be also somewhat useful to that noble science to which we have both devoted our entire lives.

There are two parts in your letter; in the one you suggest certain objections to the method which I, in union with my excellent fellow-labourer M. Gavarret, have pursued to ascertain the morbid alterations of the blood; and in the other you attack some of the particular results which we have obtained. I will now reply to each of these separately.

No one in the present day disputes that, in the order of physiological as of pathological facts, the study of the fluids of the body deserves as much attention as that of the solids. The parts which the alterations of the blood may have in the production of disease cannot in our time be a subject of disagreement. But there is still considerable difference of opinion as to the best method to be followed with the view of introducing some precision into the study of these alterations. Permit me therefore to converse with you a little on this subject.

As long as we content ourselves with trying to establish the reality of these alterations by mere reasoning, whether by dwelling on the functions of the blood in health, and on the reciprocal influences of this vital fluid and of the solids on each other, or by attending to certain causes and certain symptoms of diseases, we can never arrive at any certainties of knowledge. Of late years another plan has been pursued. By modifying the blood in a variety of ways in different animals, M. Majendie has induced in them a certain number of morbid states more or less closely resembling those which arise spontaneously in man, and a legitimate analogy has led him to infer that in the case of mankind the starting point (*point de depart*) of several diseases is to be found in one or other of those modifications of the circulating fluid which he had artificially induced in the lower animals. But to demonstrate that such is really the case, we require to advance another step. In the place of induction, we must substitute direct experimentation; we must examine the blood in man under the influence of the disease, and thus try to ascertain if it really has undergone any decided change. Now by acting in this way, we soon discover that the blood does becomes changed in a variety of ways; and thus, very fortunately for science, different modes of experimenting mutually concur to the establishment of the truth. For while, on the one hand, M. Majendi, by withdrawing a portion of the fibrine from the blood of animals, induced in them various congestions and hæmorrhages, M. Gavarret and I have ascertained that the blood of a scorbutic patient, whose skin was covered with large ecchymoses, had not more than a third part of its normal quantity of fibrine: and we have proved that the tendency to hæmorrhages is just in proportion to the amount of the deficiency of this element in the blood.*

You my dear *confrere*, are not willing to admit the truth of these results without reserve. It would not become me, who have passed my life in proclaiming the necessity of *doubting* upon all occasions, to be surprised that you should hesitate to give your assent all at once. The sentiment I alluded to is well expressed by Haller:—*noviter repertarum rerum neque injustum fatum est, ut serius aliquanto fidem impetrent. Prestiterit enim aliquantum in dubiationis partes declinasse, quam novos neaue satis firmas undique opiniones, absque judicio aut examine, recipere.*

The method which I have followed in the study of the changes of the blood in disease is, while availing myself of all chemical discoveries, carefully to examine those alterations which occur in the composition of this fluid, and not be satisfied with merely observing the more striking physical phenomena,—such as the formation of a buffy coat, its thickness, the consistence of the coagulum, the quantity of serum—such as is usually done. Not that I at all undervalue the importance of watching these latter very attentively; they communicate most valuable information; but then this information is sometimes inexact, and more often still, it is imperfect

I have shewn elsewhere that changes in the mere aspect and outward appearance of the blood are not uniformly attended with corresponding changes in its composition. It becomes therefore necessary to separate, by means of certain processes which are well known to phisologists, the different constituents of the blood from each other, and thus to ascertain the changes in the relative proportions of each of these constituents. To proceed in this manner seems to me to be only applying to the study of the changes of the blood the same method of

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*This position can scarcely be admitted as a general or absolute principle or axiom, without at least keeping in mind at the same time the distinction between active and passive hæmorrhages. Every one knows that the blood drawn in many cases of hæmoptysis is apt to be buffy, and that this form of hæmorrhage is most frequent in persons disposed to or affected with phthisis—a disease in which according to M. Andral, there is usually and excess of fibrine in the blood. —(*Rev.*)

investigation that has been pursued with so much success in the examination of the solids of the body. Long ago Silvius de la Boe very justly remarked that anatomy was a sort of chemistry and chemisty in its turn was a sort of anatomy; "for" said the illustrious Hollander, "in both studies our object is to separate and reduce to their elements compound bodies, the blood for example, to its principles, and any organ to the tissues which compose it." This is quite true: we must analyse the solids by anatomical and the fluids by chemical examination. The first of these studies is far advanced, but the latter is still very imperfect. It seems to me that in the present day we are nearly about the same stage in our progress to the knowledge of the humoral changes that Hippocrates was in reference to the changes of the solids: in his works he points out as possible, rather than authoritatively enunciates, the existence of diseases in the form or the relations of the solids. Now this is nearly our condition in reference to the blood. We have stopped with the observation of certain modifications of its external aspect, as the old Coan did with the description of some external phenomena of the solids.

........It will not be suspected that I wish to return to the fanciful doctrines of Paracelesus or of Boerhaave; I do not wish to see medicine exclusively tributary to chemistry more than to anatomy: the aid of both sciences contemporaneously is necessary to advance its real progress.

In some cases the material element of disease exist exclusively in the blood; in others, in the solids: and in a third set it is present in both at the same time. For example, I, for my part, am of opinion that pneumonia cannot exist wihout an increase in the quantity of the fibrine of the blood, as well as without some of those morbid alterations of structure which characterise one or other of the three stages of the disease; and, if we may be permitted to judge of the importance of any phenomenon by its constancy, not a little value will be attached to the change in the proportion of the fibrine in the present instance; for out of 76 analyses made by me of the blood from pneumonic patients, there was not one in which an excess of the fibrine was not detected.

But you say, how can we trust to the results of examination of the fluids, when we find them stated so discordantly by different writers? Observe, my dear *confrere*, that the same reproach may be made to nearly every branch of science. Some have denied the utility of morbid anatomy, because it also has its contradictory facts, or its discrepant interpretations of the same phenomena. The value of medicine itself has been questioned, because it is so fluctuating and variable. But in spite of the difficulty of collecting accurate facts and of interpreting them aright, we may be assured that every science is progresively advancing, however slow and unsteady the step may be; and that, in proportion as it follows the necessary law of its developmnt, the errors which retarded it in its course, are successively recognised and dissipated, while the truths which it has dicovered become every day more manifest and clear.

Organic chemistry is still an infant science; it would be unfair, therefore, to distrust its actual and positive results, because they have almost nothing analogous with those which were formerly obtained, when physicians knew of no other method of analysing the blood, except by macerating, fermenting, and distilling it in a variety of ways.

It moreover seems to me, my dear sir, that you have exaggerated to yourself the number and the importance of the contradictory statements in modern works on the blood. In this part of your letter you cite some names, and you seem disposed to predict that, one of these days, I shall be setting myself, to replace MM. Denys, Lecanu, and Mandl in the very rank from which I have tried to displace them. There is surely some mistake here; for I have the very highest opinion of the value of the researches of these gentleman. In many respects, I have taken their researches as the starting point for my own: and the numerous experiments which M. Gavarret and myself have made, have fully confirmed the accuracy of many of the details recorded in the work of M. Lecanu, and have not contradicted one of his general principles. He has not studied the fibrine apart and separated from the other elements of the blood, whereas on the contrary, we have always done so; but this is only a progressive step, and cannot be considered as a contradiction.

Again, in reference to M. Denys, whose interesting researches on the blood have given him a high rank among scientific men, I may say that there is no discordancy between his views and mine; only we have not been working in the same field. One of the leading ideas in M. Denys' work is to prove that albumen and fibrine are identically of the same nature; now I do not deny the identity; for some of the most distinguished chemists of the present day admit it, and M. Liebig has recently confirmed their views.

But whatever may be the ultimate opinion of chemists on this subject, it will remain no less true that, by stirring or switching fresh-drawn blood, we can separate a particular element or constituent, which, although it may be essentially of the same nature as that which remains in solution or suspension in the remaining fluid, must in a physiological and medical point of view at least be very carefully distinguished.

This element, which we know by the name of fibrine, is specific in its functions as well as in its character; and the increase or diminution of its quantity present in the blood characterises in a very remarkable manner certain classes of diseases. I have therefore nothing to find fault with in the work of M. Denys; it is to be considered in one point of view, and mine in another. It is thus, that in the science of general anatomy physiologists have endeavoured to prove that all the tissues of the body, with the exception of the muscular and the nervous, are only simple modifications of the cellular substance, to the state of which they may, by particular processes, be reduced. But it still remains no less true that this idea, however correct it may be in the eyes of the mere anatomist, will not satisfy the physiologist and the physician. In their eyes, the fibrous tissue, the serous tissue, and the mucous tissue, although all reducible to the state of cellular substance, are distinct and separate tissues, because each of them has a secondary structure which is peculiar to it, and which adapts it for the performance of its specific functions.

I come now to the second part of your letter, in which you ask of me explanations of certain difficulties, and state certain objections to the practical value that is to be attached to the changes which the blood may exhibit in typhus fever.

I have said, and I repeat here, that those diseases, which have been long known by the name *Phlegmasiæ*, are distinctly separate from those which are usually called *Pyrexiæ*, and that they are distinguishable from each other by the different conditions of the blood that may be discovered on an analytic examination of this fluid.

In the acute *Phlegmasiæ* the fibrine of the blood is uniformly increased in quantity; nothing is more common than to find it double or triple its normal proportion. This increase of the fibrine we have ascertained to be present from the very commencement of the inflammatory attack. I am not yet in possession of any facts to shew that this augmentation takes place before the local morbid process is developed in some structure or another; on the contrary, in several cases where I have had the opportunity of examining the blood of a patient on the day before the attack, as well as on the day on which it took place, M. Gavarret and myself have assured ourselves that in the former case there was no increase in the quantity of the fibrine.*

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* This announcement should be received with considerable reservation. For our own part, we are rather inclined to believe that the very contrary is the case.

In the *Pyrexiæ*, or proper fevers, the proportion of the fibrine in the blood is found to be either not affected at all, or it is less than in health; but it is never augmented—an important distinction between this class of diseases and the genuine *Phlegmasiæ.* When, indeed, the fever is not primary, but only the symptom or consequence of the inflammatory action, then the condition of the blood is regulated by the phlegmasia, and exhibits the lesion which is proper to it. We must here observe that a fever may be attended with two sorts of inflammation: 1. There may be an inflammation which has its origin or starting point in the common cause of the fever itself; as for example the cutaneous affection of the exanthemata; in this case the local lesion is connected with a cause that is more general. The blood remains the same as before the cutaneous inflammation was developed, and the local disease does not affect its constitution; hence the proportion of its fibrine is not increased * 2. Things are, however, very different in those cases of fever in which the inflammation exists as a complication, such as pneumonia, bronchitis, &c.; for then the blood exhibits the characters that are proper to the phlegmasiæ, and the proportion of the fibrine is therefore found to be higher than in health.

Of 52 bleedings practised on 21 patients affected with typhoid fever, in one case only was the proportion of the fibrine of the blood found to be increased; and in that case there was a distinct pneumonia present: in all the other cases the proportion of this element was either normal or it was below the natural standard.

The highest proportion was 3½; and the lowest was 0·9;—the least quantity of fibrine which we have ever met with in any disease. As might be expected, this notable diminution of the fibrine is observed in the adynamic forms of the fever; the prostration of the vital powers being usually proportionate to the amount of diminution. During convalescence the quantity of the fibrine is found gradually to rise.

So much for the changes of the fibrine in the Phlegmasiæ and in the Pyrexiæ; let us now see how another constituent of the blood, the globules, are affected in these two classes of disease. As a general remark, we may state that the proportion of the globules is usually lower than in health, in the first, and higher than in health in the second class, at least during the early stages of the diseases. In estimating the proportion of this element of the blood in any case, it is most necessary to have our attention directed to the influence of the treatment and regimen which have been followed; for a single bleeding and low diet during even a day or two will be found to have a marked influence in lowering the proportion of the red globules.

As a general remark, it may be asserted that the proportion of the red globules is above the normal standard (127 in 1000 parts of blood) in *most*, but not in *all*, cases of fever at the commencement of the disease, and before the use of any medical or dietetic means. The increase of the red globules in the Pyrexiæ is, however, neither so uniform nor so well-marked as the increase of the fibrine is in the Phlegmasiæ. In measles and in scarlatina I have found the proportion of the globules as high as 160 or 170.

There is a multitude of other topics which I should most willingly discuss

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For several days, and sometimes weeks, before the *explosion* of an active phlegmasiæ, there are almost always certain precursory or prodromic symptoms, which emphatically indicate a plethoric state of the system, and an excess of over-rich blood in the vessels.—*Rev.*

[*] This points out a most important distinction between the morbid action in the genuine phlegmasiæ and that in the inflammatory affections of the exanthemata. The remedial inferences from this position are too obvious to require any illustration.—*Rev.*

with you, my dear confrere, but which the limits of a letter utterly preclude. That the question of the changes of the blood in disease is environed with numerous difficulties, is but too certain; but, if examined with due patience and research, we have reason to hope that its study will confer important service on practical medicine.—*Gazette Medicale.*

M. ANDRAL ON THE CHANGES OF THE BLOOD IN HÆMORRHAGES.

The cause of certain hæmorrhages is to be found in a diminution of the normal proportion of the fibrine in the blood. This diminution may be either absolute, or only relative: thus 1, in some cases the firbrine alone is diminished, while the red globules of the blood remain in their normal proportion; and 2, the proportion of the fibrine is unaffected, but that of the globules is higher than in health. The former of these two conditions constitutes the *absolute*, and the latter the *relative* diminution of the element.

In a third set of cases the proportion of the fibrine seems to be diminished, while that of the globules is increased.

Now in every one of these three categories, the normal relative proportion between the two elements, the fibrine and the globules, is disturbed. The alteration may be either spontaneous, or it may be produced by sanguineous and other evacuations. In order that the proportion of the fibrine be diminished by the former, they must be carried to a considerable extent; their first and most marked effect being on the red globules, the proportion of which is very speedily diminished by any losses of blood. This diminution establishes a marked distinction between the hæmorrhagiæ and the phlegmasiæ, in the latter of which the proportion of the fibrine is found to be uniformly increased.

In seven cases of cerebral hæmorrhage, the blood was found to have a diminution of its proportion of fibrine, and an augmentation of that of its red globules. In one of these cases, the proportion of the fibrine had fallen to 1.9, while that of the globules had risen as high as 175; a few days afterwards the symptoms were more favourable, and a second venæsection was practised; the blood now drawn contained more than three parts of fibrine, and the proportion of the globules had fallen to 137—being only ten above the normal standard.

We have very little doubt, therefore, that many cases of cerebral hæmorrhage are owing to a diminution of the normal plasticity of the blood, in consequence of the diminution in the normal proportion of its fibrine.

Cerebral Congestion.—This is a morbid state which is as yet not at all well determined, and the anatomical lesions of which are by no means the same in all cases. Every symptom of the disease may be present; and yet in one case we find on dissection a highly injected state, and in another a remarkably anæmic paleness of the brain. In 15 cases of the disease, in which the blood was examined, the proportion of its fibrine was not, in a single instance, found to be increased, but in several it was certainly below the normal standard.

There is more than one point of anology between the states of typhoid fever and of cerebral congestion; in both diseases the precursory symptoms are much alike, and in both there is usually a diminution in the quantity of the fibrine of the blood.

Albuminuria, or Morbus Brightii.—M. Andral's experiments confirm the results of Christison's and Rayer's researches, as to the diminution of the quantity of the albumen in the serum of the blood, when this element, the albumen, is present in the urine.

A Dissolved State of the Blood.—The inorganic materials of the serum are—1, of alkali, and 2, neutral salts.

Much importance is attached by some pathologists to an increase in the proportion of the alkali, as the proximate cause of many diseases. It has been asked, for example, whether the proportion of the fibrine is not very much affected by the quantity of the free alkali in the blood: some facts seem to prove it. The quantity of alkali, we have reason to believe, is considerably increased in cases of scurvy, and of malignant typhus, in which the blood is known to be much less coagulable than it is in health. A mere excess in the proportion of the water of the blood is not, as is generally imagined, the cause of its being found to be in what has been called a *dissolved state*, as is abundantly proved by the phenomena which the blood in chlorosis is known to exhibit. It is rather the absolute or the relative diminution in the proportion of its alkaline ingredients, which constitutes the state of *dissolution* or abnormal fluidity of the sanguineous fluid.

Psesence of Pus in the Blood.—Purulent matter has been found in the blood in the following cases: 1, in inflammation of the parietes of the heart, and of the bloodvessels; 2, in inflammation of other organs, as in smallpox, for example; in extensive abscesses, and then the matter must penetrate by absorption, molecule by molecule; 3, it has been met with in the middle of coagula, which had been formed during life, within the heart or large bloodvessels. The pus is found in different states; it may be infiltrated into the blood, so that it is conbimed with this fluid, molecule with molecule, and then the blood exhibits a change in its colour; while in other cases it is deposited in the form of minute isolated drops in the midst of the blood, after death. M. Piorry, to whom we are indebted for some valuable researches on this topic, has observed on the surface and also in the substance of the buffy coat of the blood, drawn from patients labouring under pneumonia, white granulations, which he considers as particles of pus.

When purulent matter is mixed with the blood, a great change takes place in the constitution of the latter fluid; the coagulum loses its consistence, and becomes soft, friable, and reduced into small lumps; its liquid portion is a veritable ichor.

Other substances, the product of morbid action, are found, in certain cases, mixed with the blood. Thus cancerous and encephaloid matter has been frequently observed in the veins leading from and adjacent to parts which are the seat of these diseases.

The blood may also be infected by several poisons derived from the lower animals, as by that of glanders, of malignant pustule, &c. It has been found that the blood of over-driven animals, if injected into the blood of other beasts, produces serious accidents; the blood of the latter becoming soft, diffluent, and having little tendency to coagulate.—*Gazette Medicale.*

M. ANDRAL'S RESEARCHES ON THE BUFFY COAT.

In one of the recent lectures, delivered last Summer at the Faculty of Medicine by this distinguished physician, we find the following statements, as to the relative frequency of the buffy coat in various diseases.

Of 12 cases of Acute *Amygdalitis*, there was a perfect buffy coat in 9, an imperfect one in 1, and none at all in 2—in 123 bleedings in cases of *Bronchitis*, the blood exhibited a perfect buff 35 times, an imperfect buff 25 times, and no appearance of it 63 times. In the cases in which the buff was perfect, there was acute capillary bronchitis; in the other cases, the disease was not accompanied with fever.—*Lead Colic:* of 10 bleedings, buff was found in 3 cases only.—*Chlo-*

rosis: of 11 bleedings, a perfect buff, similar to that observed in rheumatism was found in 7 cases; once there was an imperfect buff, and in the remaining 3 cases there was none at all. We may suspect from these facts that the existence of the buff on the surface of the blood has not always the same signification, and that different morbid conditions may give rise to this phenomenon.—*Cerebral Congestion:* of 103 cases, a perfect buffy coat was found in 14 cases only; in 12 cases there was an imperfect one, and in the remaining 77 cases there was none at all. —*Pleuritic effusion:* some of the cases were chronic and apyretic, and others were recent and accompanied with slight fever; of 27 bleedings, the blood was buffy 7 times, slightly so 9 times, and not at all so 11 times.—*Intermittent Fever:* of 32 bleedings, a buff was observed in 5 cases only.—*Typhoid Fever:* of 187 bleedings, the blood was quite free from buff in 147 cases; in 30 there was an imperfect partial buff; and in 10 cases only, and these were complicated with pneumonia or bronchitis, was there a perfect buff. Surely therefore we may infer that, in simple uncomplicated typhoid fever, the blood is destitute of a buffy coat.—*Cerebral Hæmorrhage:* in 2 cases only out of 22 bleedings was the blood at all buffy.—*Hypertrophy of the Heart:* the blood was buffy in 11 cases only out of 72 bleedings.—*Albuminuria:* 6 cases; no buff found in any of them: Can we then regard the disease as nephritis?—*Pneumonia:* of 230 bleedings, a well-marked buff was observed in 215 of the cases; it was somewhat imperfect in the remaining 15.—*Acute Rheumatism:* of 134 cases, a perfect buff was found in 125; in 5 it was imperfect, and in 4 there was none at all. In one of these last cases the bleeding was practised towards the close of convalescence, when the proportion of the fibrine, which had been as high as *six*, had fallen down to *three*, nearly the normal standard.—*Chronic Rheumatism:* in 11 cases only, out of 50 was the blood found to be buffy.—*Measles:* 11 cases; no buff in any of them.—*Scarlet Fever:* 9 cases; no buff in any of them, except when there was acute nephritis co-existent.—*Pulmonary Tubercles:* 203 cases; the blood exhibited a perfect buff in 140, an imperfect one in 13, and none at all in 50 of the cases.

From the preceeding data, M. Andral infers that the existence of the buffy coat does not necessarily indicate an absolute increase in the quantity of the fibrine in the blood, but only a relative increase of it in proportion to the quantity of the red globules.

When the blood contains an excess of its fibrinous element, the process of coagulation goes on more slowly than usual; thus the blood drawn from a person affected with acute rheumatism coagulates more slowly than the blood drawn from a typhoid patient. The globules are precipitated along with a small portion of the fibrine, the greater portion of this element being still in a state of solution in the upper stratum, and not coagulating until the globules have entirely subsided.

The increase of the relative proportion of the fibrine to the globules may occur in two different conditions:—1, the quantity of the globules being normal, that of the fibrine may rise from 3 or 4, the standard in health, to 10; under such circumstances the formation of the buffy coat is uniform and constant, its thickness and consistence being proportionate to the excess in the relative quantity of the fibrine. This is the case in all the genuine phlegmasiæ, in which there is a real and absolute increase of the fibrine. 2. The quantity of the fibrine may be normal, but that of the globules may be considerably reduced. Now in this case, although there is no absolute excess of the fibrine, a genuine and well-marked buffy coat, with retracted and puckered edges, may be formed on the blood, although there be no inflammatory disease present. Hence we observe this phenomenon in the blood of chlorotic girls. M. Andral has seen a perfect buff on the blood when the proportion of its globules had fallen from 127, the normal standard, to 28.

The explanation of these facts is of the greatest practical importance, and puts an end to those disputes which have taken place among medical men, who have been surprised to find a buffy coat on the blood in chlorosis—a disease which has usually been considered as quite antipodal to the phlegmasiæ.

The mere presence of the buffy coat is by no means an indication of the existence of inflammatory action; all that it indicates is that there is an alteration in the relative quantities of the fibrine and of the red globules, by which there is an excess, either absolute or relative, of the former element.

The last circumstance that we can allude to is, that we must not, in all cases, judge of the actual quantity of the fibrine and red globules, by the size of the clot; for this depends much on the force with which it has contracted during the process of coagulation. Thus we not unfrequently observe a large coagulum, when the blood is really deficient in its solid materials, in consequence of a great portion of the serum being retained in its meshes. We should therefore, in all cases, pay great attention to the consistence, as well as to the size of the coagulum.—*Gazette Medicale.*

M. VELPEAU: NEW APPLICATION TO ERYSIPELAS, WITH REMARKS ON OTHER REMEDIES.

M. Velpeau informs us that of late he has been using a solution of the sulphate of iron with most decided advantage, as an application to parts affected with erysipelas. According to his experience its effects are, in most cases, very rapidly useful, the inflammation usually subsiding in from 24 to 48 hours after it has been applied.

He talks of its seeming to have some specific action, and goes on to say: "we maintain that this topical remedy is the only one which, as far as we know, so quickly arrests erysipelatous phlegmasiæ. (!) Its action is strictly local and confined to the part to which it is applied; for he has often seen the erysipelas disappear in a part that was kept wetted with the solution, while the circumferential parts were more or less affected with it.

M. Velpeau then comments on the results which he has obtained from the use of other local remedies.

Compression.—His remarks are so pertinent in some respects, and so truthfully expose the senseless conduct of too many in our profession, that we shall give them:—

Ignorant Abuse of Remedies.—"Medical men, falling into the deplorable confusion which we have so often pointed out, have applied the remedy right or wrong, by hook or by crook (à tort et à travers), sometimes for one case, sometimes for another, and meeting either with success or failure as chance might happen, and of which they could give no rational account, they have, as might be expected, come to the most opposite conclusions. Thus some practitioners have applied compression to all sorts of cutaneous inflammation alike; to angioleucitis and to phlebitis, to simple erysipelas and to diffused phlegmon; whereas the remedy, even when judiciously employed, is useful at first only in the treatment of phlegmonous erysipelas, and in some cases of angioleucitis and phlebitis. It is utterly inefficacious in arresting the progress of simple erysipelas."

It is not to be supposed that we quite assent to the truth of these remarks of M. Velpeau; compression has always seemed to us a very questionable remedy in any form of cutaneous inflammation, except when the disease is in a chronic or very subacute stage. It is but too true, that we can very rarely allow ourselves to be guided by the French writers as to the *treatment* of *diseases:* they are excellent morbid anatomists and clever operators, but their *ratio* and *methodus medendi* can seldom be imitated with advantage.

The Nitrate of Silver.—Our author is not very favourable to this remedy, which has been so much vaunted by English and American writers:—"These gentlemen seem to me to have acted very confusedly; for it is almost impossible to determine in what form of cutaneous inflammation the remedy has been found chiefly useful. I have used it in upwards of thirty cases; in some, applying the caustic to the affected surface directly, in others around its circumference; occasionally the remedy has seemed to be useful, but more frequently it has utterly failed. Sometimes, indeed, it has appeared to arrest the progress of the inflammation; but in most cases this was merely temporary, and the zone of the cicatrization did not ultimately prevent its extension. I have given a fair trial to the remedy by applying it to one limb that was affected with erysipelas, and treating another limb of the same patient in another manner; and I have found that the former was often the more tardy of cure. On the whole, therefore, I regard the nitrate of silver, 'comme un moyen inutile et à laisser de coté.'"

M. Velpeau is not more favourable to the use of the acid nitrate of mercury as a local application to erysipelatous surfaces, although it has been recommended by MM. Biett and Cazenave, and extensively employed by them at the Hospital St. Louis.

He disapproves also of blisters as a remedy for erysipelas, although they were so highly praised by the late Baron Dupuytren. He has no better opinion of spirituous and camphorated lotions; or even of the irrigation from a continued stream of cold water, a remedy which has, of late years, been recommended with such enthusiasm by some practitioners. At first the most marvellous cures were effected by this remedy of remedies; but alas! on further trial of it, in the hands of unprepossessed experimenters, it was found *wanting*. We have always reason to distrust a remedy that is announced to have such extraordinary healing powers. The pool of Bethaisda itself could not work greater wonders than the continued irrigation from a stream of cold water on an erysipelatous surface, according to some reports. But the dream has passed away, and now it is discovered that the remedy is not only inefficacious, but is also, in not a few instances, absolutely prejudicial, exposing the invalids to catarrhs, rheumatism, and *milles autres accidens*.

Then again, the *inunction* of *mercurial* and other ointments, a practice that has been so lauded by many of his fellow countrymen, is reported by M. Velpeau, after a pretty extensive experience of its use, to be utterly *destitute of any appreciable advantage*. It possesses no power of arresting the inflammatory action; and at best it serves only to abate somewhat of the heat and sense of burning which generally accompany erysipelatous affections.—*Journal des Connaiss. Medicales.*

Remarks.—On the local treatment of erysipelas, as indeed on most topics of practical medicine, French writers are certainly not our best advisers. They are so deficient in a knowledge of general and fundamental principles to guide them, that they seem to be tossed to and fro before they can ever decide on almost any subject appertaining to the management of disease. For example, take the present case. We believe that most British practitioners will agree with us, that topical treatment is of secondary importance only in the cure of erysipelas, unless, indeed, where the disease is obviously the result of a local irritation, such as of leech-bites, &c. The question of chief importance, at least when the disease is severe, and accompanied with constitutional disturbance, is whether we are to adopt an antiphlogistic, or a stimulating and tonic treatment internally. Much mischief has been done by laying down too absolutely and dogmatically a certain line of practice, to be followed in all cases of the disease without distinction. Now this is a very serious practical error. One set of cases will be found to require depletion and a lowering regimen; while another set of cases will be best treated with the administration of opium, quinine, beef-tea, and perhaps also wine or brandy. The wise physician will be regulated by the state of symptoms in each case, as well as by the medical constitution of the season, and the type of the prevailing diseases at the time.

With respect to the local treatment, this also will require to be modified according to the character of the constitutional symptoms, as well as by the condition of the affected parts. Perhaps the safest, as well as the most useful application in the marjority of cases will be found to be a weak spirituous lotion, used *tepid*. There cannot be a doubt that considerable risk is incurred by employing any means likely to repel the cutaneous inflammation suddenly ; but this is certainly no sufficient reason to reject all topical remedies, or to be satisfied with such innocuous substances as flour, chalk, carded wool, &c. The composition of the lotion may be advantageously varied according to existing circumstances, by the addition, for example, of varying proportions of the liquor plumbi, liquor ammoniæ acetatis, acidum hydrocyanicum, &c. The addition of an ounce or two of spirit of rosemary to eight or ten ounces of camphor mixture will, for a large proportion of cases, make an exceedingly good application—to be used *tepid*. By covering the parts with a piece of oiled skin, they are kept uniformly moist, without being apt to become too much chilled.

As to M. Velpeau's opinion, that a solution of the sulphate of iron has any specific effect on erysipelatous inflammation, we need scarcely say that it is quite fanciful.

A solution of sulphate of zinc or of any mild, astringent, would answer quite as well ; and moreover have the advantage of not staining the linen of the patient or of his bed.

What must surprize the reader is, that an experienced surgeon like M. Velpeau should have such vague notions of therapeutic principles as to write a lengthened paper for the purpose of announcing to the public the discovery of a *nouveau topique* for the treatment of erysipelas. But such is the character of too many of the French school. Excellent anatomists and pathologists they are; but in practical medicine, or, in other words, in the treatment of diseases, they seem to be woefully deficient.—*Rev.*

HINTS FOR THE ADMINISTRATION OF IODINE.

Dr. Mojsisovitz, of Vienna, has contributed an elaborate paper to the Medicinische Jahrbucher, on the administration of iodine and its various preparations, in which he has pointed out certain precautions, which are probably not generally known, and the ignorance of which may account for the unsatisfactory results so often derived from their use.

As the feculent matters decompose the preparations of iodine, we find this substance in the state of ioduret of starch, in the tools of persons who eat bread, potatoes, rice, gruel, and vegetables, while taking the medicine. It is therefore necessary to interdict the use of every sort of food containing fecula to patients to whom iodine is given. It is probably owing to a decomposition of this kind having taken place, that we are to explain the inert effects of those enormous doses of the medicine which have been exhibited by some physicians, as Dr. Elliotson, Dr. Buchanan, of Glasgow, and Professor Forget, of Strasbourg. It is rather a curious circumstances that these gentlemen should not have detected traces of the ioduret of starch in the feculent matters of their patients, because Dr. M. informs us that he has never failed to discover it in the stools of such as eat farinaceous substances, while they were taking the medicine.

According to the experience of our author, the use of saline baths greatly promotes the action of iodine on the system. He has also reason to believe that the activity of its operation is a good deal influenced by the condition of the weather at the time. When the air is clear and dry, it seems to have most effect, and more especially when there was a tendency to inflammatory complaints: whereas, on the other hand, its action seemed to be almost null during the endemic prevalence of smallpox, puerperal fever, and diarrhœa.

The crises, which iodine has a tendency to provoke, are salivation, and a cutaneous eruption like scarlatina or miliaria; the secretion of the urine is usually the more abundant in proportion as the diet of the patient is kept low and restricted.

Dr. M. prefers the hydriodate of potash, and the proto and deuto-iodurets of mercury, to either pure iodine or to any other of its preparations. He regards the tincture of iodine as one of the very worst formulæ that can be used: it is more likely, he says, to cause a wasting of the tisticles or mammæ, hæmoptysis, palpitations of the heart, &c. than any of its salts.

The dose of the hydriodate which he recommends for adults is about fifteen grains dissolved in distilled water, in the course of the day.

If there be any open ulcers, they should be kept wetted with a solution of the hydriodate; but if the local affection be a tumor, then he recommends that it should be well rubbed with an ointment composed of 2 parts of the proto-ioduret of mercury and 24 of lard.

The diseases in which Dr. M. has used iodine with advantage are œzena, ulceration of the tongue, palate, &c., various forms of obstinate cutaneous disease and of secondary syphilis, white-swelling and other maladies of the joints, periostitis, tumefaction of the lymphatic glands, scrofulous induration of the subcutaneous cellular tissue, and many other kinds of strumous disease.

ON MORAL THERAPEUTICS.

M. Reveillé-Parise is, we believe, well known in Paris as an accomplished and highly literary physician. He is one of the Secretaries of the Royal Academy, and we have observed that, on more than one occasion, he has been solicited to pronounce the funeral *eloge* over some distinguished son of science.

He has recently published, in one of the French periodicals, an elegant Essay on Moral Therapeutics, or the influence which the mind and passions exercise in the production and cure of various diseases. It is certainly a good subject for a medical theme, affording ample scope alike for the observations of the practical physician and the reflections of the thoughtful scholar. It was the remark of Napoleon that, in war, the moral are to the physical means as three to one—so highly did that cosummate general rate the influence of mere mind on the issue of any great military enterprize. Now the same will often be found to hold good in the more peaceful operations of the healing art. It is by studying the mind, the feelings, and passions of his patients with more than usual tenderness and sagacity, that one physician so often outstrips another in the extent and success of practice. We believe that the want of such a study is apt to be a besetting sin of those medical men more especially who have been long occupied with hospital practice. M. Parise very pertinently remarks on this subject, that "patients in these institutions are almost quite unknown to the physician and the physician to the patients; when they are once discharged, they are completely forgotten; there is no unbosoming of the heart either attempted on the one side, or encouraged on the other. The patient suffers, or is cured, dies or leaves the hospital, bearing within his own breast the arrow that has wounded his feelings, and which has been the cause of the disturbed equilibrium of his bodily functions."

There cannot be a doubt but that psychological causes of disease are too apt to be entirely overlooked in the present day, and that physicians, in their minute examination of all the physical symptoms of a malady, often overlook the influence of mental emotions on its development, its progress, and its termination.

"If a patient dies," says M. P., "we open his body, rummage among the vicera, and scrutinize most narrowly all the organs and tissues, in the hope of discovering lesions of some one sort or another; there is not a small vessel, membrane, cavity, or follicle which is not attentively axamined; the colour, the weight, the thickness, the volume, the alteration, nothing escapes the eyes of the studious anatomist. He handles, touches, smells, and looks at everything: then he draws his conclusions one way or the other. One thing only escapes his attention; this is, that he is looking at merely organic effects, forgetting all the while that he must mount higher up to discover their causes. These organic alterations are observed, perhaps, in the body of a person who has suffered deeply from mental distress and anxiety; these have been the energetic cause of his decay; but they cannot be studied in the laboratory or in the amphitheatre."

......"Many physicians of extensive experience are destitute of the ability of searching out and understanding the moral causes of disease; they cannot read the book of the heart; and yet it is in this book that are inscribed, day by day and hour by hour, all the griefs, and all the miseries, and all the vanities, and all the fears, and all the joys, and all the hopes of man, and in which will be found the most active and incessant principle of that frightful series of organic changes which constitute pathology."

This is quite true: whenever the equilibrium of our moral nature is long or very seriously disturbed, we may rest assured that that of the animal functions will suffer.

Many a disease is the *contre-coup*, so to speak, of a strong moral emotion; the mischief may not be apparent at the time, but its germ will be nevertheless inevitably laid.

"An aneurism of the heart, an engorgement of the liver, a scirrhus of the pylorus, an effusion on the brain, or a softening of some point of its substance, typhoid fever, and the majority of what are called nervous diseases—proceed more or less directly from some, perhaps forgotten, grief, but which, *velut spina in corde*, to use the words of Hippocrates, has gradually destroyed the springs of the living economy. Can we doubt but that it was concentrated chagrin that was the vulture which preyed upon the vitals of Napoleon on the rock of St Helena?"

It is, indeed, often very difficult to trace distinctly the relation between the cause and the effect, except, perhaps, in our own individual cases, or in those of our immediate friends. But where is the medical man that could not tell many a story of the workings of the mind in unhinging the machinery of the body? His own personal experience probably might furnish him with many such a lesson.

And perhaps our author does not much exaggerate the influence of mental causes when he says, that "deep and protracted distress of mind is the *point de depart* of the greater number of organic diseases.* The learned Mœringhen has very justly observed: vix ullus reperitur morbus, cui non aliquod animi pathema, vel ansam, vel incrementum, vel remedium dederit—an axiom as true as it is pregnant with practical results."

1. The organ which is most apt to be affected by mental and moral causes is assuredly the *brain*. We cannot, indeed, point out the connection between the mind and the body, nor explain how they should act and re-act on each other; yet the fact is obvious, every hour that we live. It may puzzle, indeed, the philosopher to understand how it happens that an idea, an entity that is altogether metaphysical, invisible, intangible, without extension or form, or weight, should

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John Hunter attributed the disease of the heart, of which he ultimately died after many years' suffering, to the fear of having caught the hydrophobic virus, while dissecting the body of a patient who had died of rabies.

nevertheless act with such force on the body as to prostrate and destroy the stoutest frame. Yet so it is. Take the case of a man who learns that 2000 miles off a vessel which holds all his fortune is wrecked, or that an only child has died; nothing touches him, nothing directly affects his body, but the iron has entered his soul; and soon, nay almost immediately, are the effects of the mental anguish visible in his outward constitution. He experiences a violent electric-like commotion that shakes every organ of his body; he trembles all over, and feels dizzy in his head; a fixed, deep-seated pain is felt there, that robs him of sleep and chases all his appetite away; and if nothing is done to relieve him, inflammation of the membranes of the brain, or encephaloid congestion, or apoplexy, or palsy, or softening of the brain, or some other fatal mischief, is more or less quickly induced.

2. The stomach is the organ, after the brain, most apt to suffer from mental disquietude. The first effect of a deep grief, or even of a sudden and extreme joy, is to suspend the appetite and interrupt the digestive process. This disturbance of the gastric functions is owing to a lesion of the sensory and contractile powers of the stomach, in consequence of the irregularity of its innervation or supply of nervous influence. There seems to be in some cases even a certain amount of paralysis of the organ induced at the time. However this may be, we certainly observe not unfrequently that serious organic mischief of the stomach is apt to follow protracted grief and anxiety of mind. In other cases there is only an intense neuralgic suffering, well known under the term gastrodynia, and the symptoms of which so often simulate scirrhus of the pylorus * How often do we observe that the worst cases of this complaint, which may have resisted all medical treatment, vanish in a day by the intelligence of some pleasing news, or by having recourse to agreeable change of scene. If not relieved, the atony of the stomach will in almost every case, more or less speedily, be followed by the development of organic mischief somewhere. In one case, it may be the lungs that suffer and phthisis is induced; in another the foundation of cardiac disease is laid: in a third the brain, and in a fourth the liver or mesenteric glands are affected. Sometimes the patient dies from complete marasmus, and yet on dissection no morbid lesion of any organ is discoverable. Such was the case with Madame Nourrit, the widow of the celebrated singer at Paris; an inward grief followed the melancholy death of her husband, and gradually exhausted all the vital energies of the system, and she died of marasmus.

3. "The *intestines*," says M. Parise, "seem to be less affected by mental and moral influence than the stomach. May this be owing to their being farther removed from the gastric plexus?"

There are, however, it must be confessed, not a few intestinal disorders which are very intimately connected with the depressing emotions of the mind. Not to dwell upon various affections of the liver, congestions of the spleen, constipation or irregular action of the bowels, we may allude more particularly to the common disease of *piles.* How very generally is this troublesome complaint associated with an irritable, unhappy, and peevish state of mind? We have often predicted the existence of hæmorrhoids in patients, whom we had never seen before, from merely observing the anxious expression of their countenance.

4. Although the *heart* is not in a physiological point of view now regarded as

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* One form of this most distressing malady is not unfrequent in medical and other students who are preparing for their examinations, and who allow their minds to be over-anxious about the result. As a general remark, excessive application of the mind, especially when coupled with anxiety or grief, inevitably deranges the digestive functions.—*Rev.*

the seat of the passions, as the language of poets and moralists would imply, no one can deny that it is powerfully influenced by them. Authors have differed as to how far this influence is more or less direct and immediate on the centre of the circulation. Every one knows that any violent emotion of the mind, whether this be of an exciting or of a depressing nature, is accompanied with a feeling of oppression and distress in the cardiac region, and with a greater or less degree of tumultuous or irregular action of the heart.

"Although the nerves of the heart are by no means numerous or large, it is nevertheless certain that, under the influence of any strong emotion, their action is almost immediately disturbed.* It is therefore readily conceivable that a frequent repetition of such disturbance will, in course of time, be followed by the induction of a permanent disease of the organ. There are perhaps few cases of aneurism of the heart which are not attributable to moral causes; and when we use the common expression that intense grief is *a heart-break*, the phrase is often true in a physical as well as in a moral point of view. The celebrated chemist, Fourcroy, is a striking example of the truth of this remark. Napoleon had long promised him the situation of rector of the university, but at length he bestowed it on Fontanes. Fourcroy was so deeply affected by this conduct that all the symptoms of a heart complaint became immediately aggravated; and, while in the act of signing some public papers, he cried out *je suis mort*, and immediately expired in the arms of an attendant.

We may here observe that one of the corporeal or physical signs of prolonged distress of mind is a marked predominance of the venous over the arterial system. This is doubtless owing to a diminution of the contractility of the heart, and to the consequent *stasis* or languor of the general circulation. The French proverb—*qui voit ses veines, voit ses peines*— is therefore strictly true.

The influence of the mental emotions on the functions of the *kidney* is strikingly exemplified in almost every case of hysteria. It is not indeed easy to explain why there should be such a copious secretion of limpid urine at the decline of an hysterical paroxysm; but that such is the case, every tyro in medicine knows.†

The *mamma* is another organ, whose secretion is very decidedly affected by the state of the mind and feelings.

"The milk," says M. Parise, "becomes suddenly fluid and aqueous, or thickened and acid, or diminished in quantity, or even totally suppressed, returning perhaps as quickly again, by various mental causes, without the slightest appreciable change in the mammary glands themselves. These phenomena we observe almost daily in women who are of a highly nervous and impressionable temperament. An excessive, but ill-balanced, tenderness on the part of a nurse often unfits her from suckling her child with advantage. If Rousseau had been acquainted with the laws of the animal economy, he would not have insisted, so urgently as he has done, that every mother, without exception, should suckle her children: his eloquent appeal has on many an occasion proved most hurtful to both."

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* Few writers on the physiology or pathology of the heart seem to us to pay sufficient attention to the intimate connexion of its functions with the state of the respiration; and yet every disturbance of the breathing is necessarily followed by some irregularity in the cardiac circulation. After a good deal of reflection, it appears to us that the influence of moral impressions on the heart can scarcely be regarded as direct and immediate, at least in the majority of instances; but rather that this influence is exerted primarily on the lungs, and only consecutively on the heart. Attend, for example, to the influence of fear: the breathing is immediately suspended, the throbbings of the heart follow. It is to Mr. Wardrop that the profession is especially indebted for the most lucid exposition of this and such-like phenomena: vide his ingenious work on the heart.—*Rev.*

† We have seen more than one case where diabetes mellitus *seemed* to have been brought on by protracted anxiety and distress of mind. In these cases the spinal marrow appeared to be a good deal at fault, as there was a very marked debility of the lower extremities present at the same time. The cases did well under the influence of animal diet and of change of scene.—*Rev.*

The *cutaneous* functions are very notably affected by the emotions of the mind. How chilly becomes the skin, when grief is preying on the heart! and, on the contrary, how the whole surface glows with warmth when the soul is filled with joy! Captain Ross, in the narrative of his arctic voyage, alludes particularly to the circumstance of mental depression rendering the body more susceptible to the impression of cold, and mentions that several of his men became morbidly irritable: the accounts of the disastrous retreat of the French from Moscow, and of the awful shipwreck of the *Medusa* frigate, afford still more striking instances of the same state.

If our space permitted, it would be easy to extend these observations; but as our object at present is not to write a dissertation, but only to offer a few suggestions to our readers, it is unnecessary to say more than urgently to impress on all medical men the necessity of studying the psychological causes of disease. —*Bulletin de Therapeutique.*

AUSCULTATORY TEST FOR THE ADMINISTRATION OF IRON.

Dr. Carriere, one of the professors of the medical school at Strasbourg, announces as the result of an extensive clinical experience, that in almost every case in which a ferruginous preparation has been found distinctly useful for the relief of nervous disorders, and more especially the Protean class of the neuralgiæ, "one single symptom has been found to be constant and uniform, and has always served as a touch-stone for the treatment to be employed, viz. the blowing-sound or *bruit du diable* in the large arterial trunks." "This precious sign," he continues, "has on many embarrassing occasions sufficed to establish a correct diagnosis of a case, and to lay the basis of a treatment which, although seemingly at the time empirical, has been followed with remarkable success. I had often observed the presence of gastralgia and other forms of neuralgic distress complicating the chlorotic condition, and that ferruginous medicines, if properly administered, generally relieved both one and the other affection. I concluded that these concomitant maladies were under the influence of that peculiar alteration of the blood which, in my opinion, constitutes the chlorotic state; and, as in this morbid state I have almost uniformly been able to detect the existence of the *bruit du diable* in the large arteries, I was led to assimilate with it the majority, at least, of the affections that happen to be accompanied with this auscultatory phenomenon, and consequently to employ the same remedies for the relief of all. Experience has justified the correctness of this reasoning. I have successfully treated with steel an immense number of most obstinate neuralgiæ, including many cases of most severe cephalagia, which had continued for months and even years to resist every other mode of treatment; and I must acknowledge that the presence of the arterial *bruit* has often been the only existing symptom to guide me in my diagnosis, when all the usual symptoms of chlorosis—as, for example, the pallor of the complexion, the absence or deficiency of the catamenia, &c.—were awanting."

Dr. Carriere is quite correct in asserting, that many of the most troublesome symptoms which usually accompany genuine chlorosis are often observed in patients, in whom there is no irregularity of the uterine functions, and who do not exhibit the well-known waxy hue of what is popularly called green sickness.

Of these concomitant symptoms perhaps none are so unmanageable as the various forms of neuralgiæ; and the profession would certainly be much indebted to any one who could point out with accuracy a successful mode of treating them, or even furnish them with a means of distinguishing those cases in which we may promise a speedy cure from those which will probably be more unyielding. This diagnostic test or touchstone may be found, in our author's opinion, in the presence or absence of the arterial *bruit;* and he strives to demonstrate that it is by the presence or absence of this auscultatory phenomenon that the physician is to be guided in the selection of his remedies. When once he detects the arterial *bruit* or mumur, he may be satisfied, says Dr. Carriere, that steel is the proper remedy for the existing disease, and that the use of it is required as long as the bruit can be heard. The following case is given in illustration.

A young girl, who had never menstruated, and who was of a delicate nervous constitution, was attacked with catalepsy, the paroxysms of which usually returned every third or fourth day. As I found a distinct *ronflement* in the carotid and subclavian arteries, I at once prescribed the use of steel remedies, at first in small doses, to be gradually increased in quantity. The attacks gradually became less frequent and less severe, and I uniformly found that the arterial murmur diminished in a corresponding degree. The use of the steel having been, contrary to my advice, suspended for some time, the paroxysms returned with greater frequency, and the *bruit du diable* recovered its former intensity.

The same circumstance was repeated three or four times subsequently, and the coincidence between the aggravation of the malady and of the arterial sound was very remarkable on every occasion, without exception. The cure is still not complete, although the disease is much mitigated; for the auscultatory phenomena continues, although with considerably less intensity. I feel confident that if the use of the steel was persevered in, the disease might be also altogether subdued.

Here is another and a still more satisfactory case; it was one of *hemicrania.*

A lady, 23 years of age, had been subject from her fourteenth or fifteenth year to attacks of excessively severe hemicrania, returning at irregular intervals of time, and seemingly connected more or less with atmospheric variations. During the attacks, the patient was obliged to keep her bed, in consequence of the severity of the pain. As may be supposed, a great variety of remedial means had been tried, but hitherto with little decided success. On my first visit, I directed my attention to ascertain if any abnormal *bruit* could be detected in the subclavian or carotid arteries. At once I detected the characteristic sound, and thence determined, without delay, to administer steel. It should be stated that there was no irregularity of the catamenial function, nor any outward sign of chlorotic disease. The use of the carbonate of iron was continued for upwards of five months, at which period all tendency to return of the headaches seemed to be completely removed. The gradual subsidence of the arterial *bruit* was very remarkable during the course of the treatment.

In another case, in which the disease was an intercostal neuralgia of nearly four years' standing, the same mode of treatment was adopted, and with similar success, after all other remedial means had failed.

Perhaps the most valuable part of M. Carriere's paper is that which treats of that very insidious and often very intractable class of complaints, well known by the name of *gastralgiæ.* He says:

"The history of these most troublesome affections is certainly one of the points of pathology that is very imperfectly understood. Their nature and ætiology are still very obscure, the rationale of their symptoms is vague and imperfect, and their appropriate treatment is most uncertain and unsatisfactory.

A number of morbid affections, very different the one from the other in their nature and their origin, are classed together, as if they were degrees only of the same morbid state. When the physician determines that it is not a case of gastritis, he at once pronounces it to be a *gastralgia*, and there his diagnosis ends. As might be anticipated, the treatment is apt to be very empirical."......

"The essential point is to know how to discriminate the cases in which we may reasonably anticipate benefit from the use of iron. Now here, experience comes to shew that this very valuable remedy is found to succeed well only in those gastralgiæ, which are connected with a chlorotic condition of the system, whether the usual symptoms of chlorosis be presnt, or not, provided the characteristic *bruit du diable* can be detected in the large arteries.* Besides, this form of gastralgia has often a peculiar and characteristic physiognomy, by which it may be distinguished from the varieties of the disease. Its principal features are the continuity of its symptoms, or its alterations with some other neuralgia; the great sensibility of the epigastrium, the difficulty or impossibility of digesting food, even of the lightest kind, a sense of weight in the region of the stomach, the frequent and inodorous eructations after eating, &c.; to these symptoms is sometimes added a neuralgia of the supra-orbital nerve, or perhaps a genuine hemicrania."

Dr. Carriere, in alluding to the mistake frequently made by some of his countrymen, of counfounding gastralgia with gastritis, remarks that "the latter affection is as rare as the former one is frequent." He is perfectly correct in this statement; we believe that inflammatory affections of the stomach are of very rare occurrence indeed, and may generally be discriminated with ease by the judicious physician: there is always more or less of feverish irritation, indicated by the state of the pulse, the condition of the urine, the thirst, &c. attending it; whereas, these symptoms are rarely present in genuine uncomplicated gastralgia. Dr. C.'s exposure of the fallacy of the Broussai-ists is so graphic that we are tempted to give it at length:—

"There are still in the present day not a few physicians who, regarding pathology through the prism of the physiological doctrine, are even following after gastritis and gastro-enteritis—those two phantoms which, like genuine Protei, are shewing themselves under a variety of forms, and against which they fancy that they are continually waging warfare. It is not difficult to forsee what will happen, when these gentlemen have to do with the class of complaints which we are at present considering. The sensitiveness of the epigastric region, the uneasiness felt during digestion, the increase of pain after eating even the lightest and blandest food, the excitement and erethism of the nervous system which not unfrequently give rise to a quickened and even a hard state of the pulse—oh! these symptoms must necessarially indicate the existence of *gastrite;* and forthwith leeches, and poultices, and mucilaginous drinks and low diet must immediately be had recourse to. But the complaint does not yield; it rather becomes worse: the weakness is greater, and the catamenia, which may have been regular hitherto, are suppressed. These changes are attributed to some imprudence on the part of the patient—leeches are again ordered, and the starving regimen is once more enjoined. In this way, a patient, who under proper treatment might have recovered her health in a week or two, is reduced to a state of such debility and bloodlessness that it will require months before she can be well. It is in such often-mistaken cases as these, that the judicious exhibition of ferruginous remedies often acts with marvellous benefit."

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* It will be observed that Dr. Carriere does not use the term chlorosis in its ordinary acceptation. He employs it to designate a state of system which he considers to be connected with a certain special state of the blood, but which is not necessarily indicated by a waxy pallor of the countenance, or by any irregularity of the menses. The morbid state, although much more common in the female than in the male sex, is not unfrequently observed in the latter.

Dr. Carriere then remarks on some of the cases which he has met with in the male sex, as requiring the use of steel. One was in a young man who had recently been treated at La Charité Hospital* for typhoid fever, with repeated venesection and other debilitating measures. Two other patients, of 17 and 21 years of age, had suffered repeatedly from attacks of ague, from having resided for a length of time in a marshy unwholesome district. A fourth was in a state of great debility, induced by a protracted diarrhœa; and a fifth had very seriously injured his health by having given way to the abominable practice of masturbation. Of these *five* patients, *two* suffered from most severe cephalalgia, and *two* from gastralgia: in *all* of them, there was great muscular debility; in all, a blowing sound might be distinctly perceived in the subclavian and carotid arteries; and all were speedily cured by the use of ferruginous remedies.

Who can therefore doubt that there is a very intimate analogy between such cases in the male sex, and the much more frequent one in the female sex, which are so generally classed under the term either of chlorotic or of hysterical disease?

"In conclusion," says our author, "it is in my opinion abundantly demonstrated, that certain gastralgiæ, certain neuralgiæ, and several forms of neurosis, which are not unfrequent in young persons of either sex, and which are accompanied with a *bruit du diable* in the arteries, are so many phenomena which should be considered as the pathological expression of a *dyscrasis* of the blood, which essentially constitutes the disease of chlorosis, such as it is understood in the present day.

These various pathological expressions of the morbid condition of the blood in question may almost uniformly be removed by the judicious administration of ferruginous remedies, continued for a sufficient length of time until the system is saturated, or, in other words, until the auscultatory phenomenon, alluded to, has completely disappeared."

Dr. Carriere admits that he has occasionally detected the presence of the arterial *bruit* in cases, which he should not think of attributing to the same condition of the blood as that he has been treating of. For example, he has found it in two cases of dropsy induced by diseased liver; in one case of Bright's disease of the kidneys; and in one case also of diabetes mellitus. Moreover it is not unfrequent during the early period of pregnancy.—*Bulletin de Therapeutique.*

We cannot answer for the correctness of Dr. Carriere's views in reference to the arterial *bruit* being so good a semeiological test for the administration of steel medicines as he alleges it to be. We should think the idea to be more ingenious than true. Certain however it is, that steel is by far the best remedy in such cases as those alluded to by our author; and in this respect our experience entirely coincides with the results of his. Many very unmanageable cases of gastralgia and of various forms of nervous suffering will yield to it, after having resisted all other sorts of medicines.—*Rev.*

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* We may remind our readers that this is M. Bouillaud's hospital, and the head quarters therefore of the new *formula* of bleeding *coup sur coup*—a discovery, the value of which the animated doctor no doubt thinks will rival that of vaccination.—*Rev.*

TREATMENT OF PHTHISIS WITH ARSENICAL CIGARETTOS.

M. Trousseau is the author of the new proposal for treating pulmonary consumption with smoking cigars which have been impregnated with a minute proportion of arsenic. The worthy professor commences his observations with remarking, that however serious and unyielding any disease may have hitherto proved, we should never think of abandoning it to its own course; for it may happen that, in the trial of various plans, some one thing or another may be found out, if not to cure, at least to relieve, the evil. "If," says he, "we have been faithful in our own practice to this principle, we have been especially so in reference to tuberculous affections of the lungs. We have tried, and then in its turn abandoned, the use of the extract of *cachou* in considerable doses, the rhatany; almost every form of tonic medicines; caustic issues, and various other kinds of drains over the seat of the disease; the sulphuret of calcium, the medicinal waters of Enghien, of Bonne, &c.—but all these and many others, without arresting the progress of the disease."

What a medley of incongruous remedies, and all for the same complaint! Well may such practice suggest the idea of the random strokes of a man to hit his enemy in the dark. Really such empirical practice is unworthy almost of an advertising quack: what then shall we say of an established professor coolly announcing it as the result of experience! The first suggestion of the arsenical cigars occurred to his mind in the following way:—

"A physician from one of the departments called upon me to say that he had discovered a method of curing pulmonary consumption, and to request me to intrust to his care some patients to try the effects of his medication under my inspection—adding, however, that he meaned to make *une affaire* of his discovery. I could not accede to such a proposition, unless upon the distinct understanding that every thing should be made public. At first he assented to my wishes but afterwards drew back, confessing, however. that his remedies consisted chiefly in irritating fumigations or inhalations. Acting upon this hint, I have tried a variety of means in this way, and among others, little cigars impregnated with a minute proportion of arsenic."

He goes on to remark:—

"We have no doubt as to the curability of tubercles of the lungs. The post-mortem examination of many old subjects, exhibits most distinct traces of cicatrised caverns. As there is a great analogy between scrofula and pulmonary tubercles, we at first directed our attention chiefly to those substances which are known to be useful in promoting the healing of scrofulous ulcers. You know that if a small quantity of the Vienna powder be applied upon the surface, the skin there becomes disorganised, and that below the eschar we observe a cicatrix recently formed. But if we use a less powerful caustic, like the arsenical or chloride of antimony pommade, we may succeed equally well in effecting the cure of a scrofulous ulcer.

Then again, of all remedial means against cancer of the skin, certainly none on the whole is so trustworthy as arsenic: it seems to act in two ways; 1, as a caustic, and 2, as an alterative of the existing morbid process. Reasoning on these facts, I was led to conclude that this most potent remedy might be used with advantage in phthisis pulmonalis; and I was confirmed in this idea by finding that many of the old writers on medicine have mentioned the curative effects of certain remedies, which are known to contain some preparation of arsenic in cases of wasting of the lungs."

M. Trousseau thus describes the method of employing arsenical fumigation, which he at first adopted:

"I dissolved one or two *grammes*—a *gramme* is equivalent to nearly 15½ grains—of the arseniate of potash in 10 grammes water; two grammes of the solution were then poured upon a sheet of paper, and when this was well wetted, it was allowed to dry. Of this prepared paper a number of small *cigarettos* were made. The patient is advised to draw in a large mouthful of the smoke, and inhale it as deeply as he can, so as to cause it to penetrate into the bronchi. The effort causes a good deal of coughing at first, but becomes gradually more and more easy. The inhalation is repeated two, three, four, or five times, according as the patient can bear it."

M. Trousseau administers at the same time minute doses of arsenic internally, and strongly recommends the simultaneous use of hemlock plasters—the extract spread upon diachylon plaster—on the chest. He narrates two or three cases, in which the use of these means appeared to exert the most pleasing effects in mitigating the symptoms, and in decidedly arresting the progress of phthisis in its advanced and hectic stage.

"We do not pretend," concludes our author, "to cure tubercular disease of the lungs with arsenic; all that we maintain is, that it is by means of it that we are enabled to modify the constitutional symptoms, and greatly improve the general health of the patient, so that life may not only be rendered more comfortable, but may be considerably prolonged."—*Gazette des Hôpitaux.*

Remark.—The practice of inhalation in the treatment of phthisis pulmonalis is perhaps too much neglected on the whole. The extravagant encomiums which some writers have passed upon inhaling the vapours of iodine, chlorine, &c. have no doubt contributed to this end. Without anticipating too much from the ingenious suggestion of M. Trousseau, we really do think that it deserves a cautious trial in conjunction, as a matter of course, with other local means, and those constitutional remedies that are calculated to give a healthy tone to the system. Arsenic is certainly one of the most powerfully alterative tonics which we know.—*Rev.*

REMARKS ON VARIOUS REMEDIES IN PHTHISIS.

We extract the following very sensible observations from a paper on the treatment of incipient consumption in the January Number of the Gazette Medicale de Paris.

Emetics are certainly among the most useful of all remedies in the earlier stages of the disease. The less advanced that the disease is, and the more *chronic* it is in its character, the more benefit may be expected from a judicious administration of emetics. Many a case, in which there could be little doubt but that tubercular disease of the lungs was developing itself, has done well under this practice, in conjunction with the use of other appropriate means, and all the symptoms of the impending mischief have been arrested; even in old chronic cases, where there was a marked dulness on percussion under one or both clavicles, but where there was no sign of softened tubercles or of vomicæ, the most pleasing results have not unfrequently been obtained. On the contrary, where the disease is acute, or accompanied with feverish irritation, emetics have not produced the same amount of benefit; and no permanent advantage can be expected from their use, when the hectic fever is fairly established, and the strength of the patient is much reduced. The emetic should be taken by the patient early in the morning, before breakfast, and while he is still in bed, so that he may have an hour or two's repose after the fatigue of the vomiting. It may be repeated every morning, or only every second or third one or so, for several weeks. Generally the patient feels more comfortable on those days on which he has been vomited, and the cough and other symptoms are decidedly mitigated.

A full dose of ipecacuan, either alone or combined with a few grains of sulphate of zinc, is as good a formula as we can employ.

On the whole, emetics are certainly the most eminently efficacious remedies which I have seen employed in the treatment of incipient phthisis, and, in conjunction with other means, they seem to hold out the promise of, if not curing, certainly arresting the progress of the disease.

Sanguineous Evacuations.—In phthisis, unaccompanied with an inflammatory affection of the lungs or of the pleura, or with hæmoptysis, we should certainly avoid any depletions of blood. Much mischief has been done, both in former times as well as more recently, by having recourse to cuppings, leechings, and even bleeding from the arm, in almost all cases of pulmonary tubercle, as if the disease was of a genuine inflammatory nature.

Even when we are obliged to resort to sanguineous depletion, in consequence of the complication of inflammation or of hæmorrhage, we should be content with obtaining a few ounces from the upper part of the chest by means of leeches or of the cupping-glasses. Minute doses of the tartrate of antimony, combined either with the syrup of poppies or with the extract of hemlock or of henbane, should at the same time be administered for a few days, until the febrile symptoms abate and the cough becomes looser and easier.

Counter-irritants.—Much relief may often be derived from the use of these means;—from blisters when the symptoms are rather acute, and from the antimonial ointment in more chronic cases. The irritant recommended by Dr. *Stokes*, which is composed of acetic acid and essence of turpentine, is a most useful one, and may be often most advantageously substituted for those in more common use: it seems indeed to have some other effect than that merely of a counter-irritant.

Iodine.—Decided benefit has been obtained in not a few cases of tuberculous disease of the lungs, as well as in various other allied forms of scrofula, from the use of this potent remedy and of its preparations. Minute doses of the iodine itself, in combination with the hydriodate of potash, may be given in distilled water or in the infusion of Calumba, to which some syrup of poppies should be added The medicine should be continued for a length of time, as its action is slow and progressive.

Tonics are necessary in almost every case of phthisis, where the disease is not acute or febrile Steel, quinine, nourishing diet, country air, &c. are the best that can be used.

It is unnecessary to say that the exhibition of this and of every other class of medicines in phthisis requires great tact and practical experience. No one but an empiric can talk of any remedy being a cure for consumption. The following judicious remarks shew that the author is a man of judgment: there is nothing novel in them, but there is, what is much better, good sound practical sense.

"When a person, who may have a hereditary predisposition to tuberculous disease, is suffering from a troublesome cough, accompanied with expectoration, dyspnœa and feverish restlessness, the first thing that we should do is to order the application of a few leeches immediately above or below the clavicles, and small doses of the tartrate of antimony with henbane or hemlock in frequently repeated doses; a saline purgative may also be necessary. If the symptoms do not abate, we must again have recourse to the leeching, or to a small blister. When the symptoms of bronchitis have ceased, as usually happens in the course of a few days, but yet a hard dry cough remains, and the inspiratory murmur be rough and noisy, or that of expiration be louder and more prolonged than in health, the use of an emetic every second morning before breakfast, will be found to be of the greatest service: the preparations of iodine internally, and the turpentine and acetic acid liniment, may also be used with advantage, at the same time. After this treatment has been continued for some weeks, the patient will usually be found to be much relieved of all his constitutional distress; and perhaps a pallor of the countenance and a quickened state of the pulse are the chief, if not the only, symptoms that are present. Now is the proper time for the exhibition of tonics, and the use of a nutritious diet: residence in the country at the same time should be had recourse to, if possible. Under such a course of treatment the patient will often regain his strength and flesh, and perhaps all the auscultatory signs of pulmonary tubercles will cease, except a certain hardness or roughness of the respiratory sounds.

Even in the hæmorrhagic form of phthisis, the use of occasional emetics has been attended with decided benefit, when the bleeding has ceased: the efforts of vomiting do not seem to have any tendency to reproduce the hæmorrhage."—*Gazette Medicale.*

M. TROUSSEAU ON HOOPING-COUGH.

The following remarks, though desultory and unconnected, are nevertheless worthy of notice.

"Pertussis is occasionally ushered in with an almost incessant tickling cough, which leaves the patient scarcely five minutes repose at a time. We were lately sent for by a lady, residing in the Chaussée d'Antin, who had been seized with feverishness, pain in the throat, and a cough so incessant that she had not three minutes' respite. After a few days' suffering in this way, the cough assumed a hooping character, and then there could not be any mistake as to the nature of the disease. At the same time we had under our care a young child, who was affected in a similar manner for ten or twelve days, before the regular hooping-cough was developed. It is useful therefore to keep in mind that, during some epidemics, the disease is thus ushered in; otherwise a medical man might be a good deal puzzled what to make of such a train of symptoms."

The Severity of the Disease not proportioned to the Bronchitic Disturbance.

"A number of physicians have supposed that the accumulation of mucosities in the bronchi was the cause of the fits of hooping-cough, and that the severity of these was always proportionate to the quantity of the secretion. Auscultation disproves the correctness of this idea; for very often, when the fits of coughing are both frequent and very severe. we can perceive only an indistinct and feeble mucous *rale*. The larger proportion of the sputa rejected during a fit of hooping-cough certainly does not proceed from the bronchi.

Again, if pertussis is to be considered, as the physiological school pretends, as a species of catarrh accompanied with convulsive paroxysms of coughing, it would surely be observed that the nervous symptoms increased in severity with the increase of the catarrhal symptoms. The physiological physicians have said, that in follicular enteritis the cerebral phenomena are owing to the sympathetic *retentissement* of the intestinal irritation on the encephalon. In some circumstances this may be so; but as a general position we cannot well admit that the gravity of the two sets of symptoms is at all proportionate to each other."

...... "In hooping-cough, it is generally observed that its characteristic phenomena becomes less distinct just in proportion as the constitutional disturbance is greater, and the pneumonic or bronchitic symptoms are more severe. Whenever a patient is in the condition of plethora, the tendency to the development of nervous disease becomes less: spasmodic symptoms are almost always observed to diminish as the tendency to fever is increased."

......"Whenever you find the hooping in a case of pertussis rapidly subside and the feverish symptoms increase, there is reason to apprehend an attack of some phlegmasia. The disease, it should be remembered, is essentially of long duration, and *on ne rompt qu'en faisant toujours face.* As the inflammatory symptoms subside, the hooping character of the cough usually returns more severely than before."

Alluding to the case of a child, in whom pneumonia supervened while it was affected with pertussis, M. Trousseau remarks:

"Now, in auscultating our young patient, we find at the root of the left lung behind a sub-crepitant rale, and on the right side a sub-crepitant and mucous *rale.* This infant has lobular pneumonia. ....The sub-crepitant rale is an indication of pulmonary catarrh, while the crepitant rale indicates pneumonia; the former is perceptible both during inspiration and expiration, but the latter is to be heard only during inspiration. In our patient we hear the sub-crepitant rale over almost the entire extent of the chest, whereas the crepitant rale exists only at some points; we therefore infer the existence of lobular pneumonia."

Curative Influence of Emetics.

"To most of the children we have given one or more vomits of ipecacuan, and in all with the effect of decidedly abridging both the frequency and the severity of the coughing fits. The vomit should be repeated every second day in most cases. We usually administer at the same time repeated doses of a mixture of equal parts of the syrups of valerian, belladonna, and opium, with a portion of æther added to it. Do not however expect to cure the disease either with this or with any other mode of treatment; all that we can hope to do is to diminish its severity."

......"We find it recorded by several authors that vaccination usually mitigates very decidedly the severity of the paroxysms of hooping-cough. In some cases, where it has been practised soon after the appearance of the disease, this has very quickly subsided. If such be the case with vaccination, we may reasonably expect a similar result from the supervention of small-pox; and such appeared certainly to be the case in one of our patients. Such a morbid eruption is a much more efficacious revulsive than any artificial one, such as that produced by the ointment of the tartrate of antimony."—*Gazette des Hôpitaux.*

CLINICAL OBSERVATIONS ON RHEUMATISM. By M. CHOMEL.

The following statistical results are derived from the clinical wards at the Hôtel Dieu, under the care of M. Chomel. During the sessional (scolaire) year 1840-41.

During the course of the year, 31 cases of acute articular rheumatism were admitted; of these 17 occurred in men and 14 in women. One half of the cases occurred during the Summer, and the other half during the Winter months. In the majority of the cases it was extremely difficult to determine the exciting cause of the disease: seven or eight only of the patients attributed it to the influence of cold. The medium duration of the disease was about 20 days: it seemed to be rather less in Winter than in Summer.

Of the 31 cases, there was one only in which the patient had exhibited symptoms of cardiac disease (palpitations and attacks of dyspnœa) before the invasion of the rheumatic attack. In another patient, immediately after the attack, symptoms of cardiac disturbance developed themselves.

From our experience, says M. Chomel, during the last four years, during which time 86 rheumatic patients have been admitted into our wards, it follows that six out of this number had been affected with heart-complaints before the attack upon the joints; and that four only have had organic affections subsequently to their first suffering with rheumatism.*

It would therefore appear that the proportion of patients, in whom organic disease of the heart supervenes after acute rheumatism, is very much smaller than that indicated by M. Bouillaud and many other writers.

It follows also from our observations that inflammation of the investing membrane of the heart, whether of the pericardium or of the endocardium, is far from being a constant accompaniment of acute rheumatism; for, if it were so, surely organic diseases of the heart should be much more than they really are. The knowledge of this fact ought to guide the minds of medical men against the too positive assertions that have been laid down in some recent works.

Bruit de Souffle.—In 7 only of the 31 patients was this blowing sound to be perceived; and out of the entire number of our patients since 1837, viz. 86, it was perceptible in 29 only of the cases—or in about one in every three cases.

But to ascertain still more exactly the value of this auscultatory phenomenon, and to determine how far it is so intimately associated with rheumatism, as has been alleged by many writers, we have endeavoured to find out whether it is not present in other acute diseases, in which there is no reason to suspect any complication of cardiac disturbance.

The following are the results of our observations during the past year. We have met with the *bruit de souffle.*

1. In five cases of pneumonia, three of which recovered and two proved fatal. In one of the fatal cases, a very slight thickening of the sigmoid valves was found on dissection; and in the other, in which the blowing sound had been so strong as to make us suspect the existence of an endocarditis, not the slightest trace of morbid change in any part of the heart could be detected.

2. In three patients affected with small-pox, the *bruit* was distinctly heard: it ceased with the disease, without leaving behind any symptom of cardiac complaint.

3. In one case of fatal typhoid fever; on dissection no trace of lesion in any part of the heart was discoverable.

4. In two cases of bronchitis, and in several cases also of acute metritis, the blowing *bruit* accompanying the first sound of the heart was distinctly perceived.

From these observations we are warranted in the conclusion, not only that this auscultatory phenomenon is far from being constant in acute rheumatism, but also that it is not unfrequently present in other acute diseases.—*Gazette des Hôpitaux.*

TREATMENT OF ACUTE RHEUMATISM WITH LARGE DOSES OF THE NITRATE OF POTASS.

Dr. Brocklesby seems to have been the first to point out the curative efficacy of saltpetre in the treatment of acute articular rheumatism. In his economical and medical observations, published in 1764, he has explained the practice which he found to be most useful. After taking a free bleeding from the arm, when the patient is young and robust, he orders a very copious allowance of warm gruel, in which from one to two drachms of the salt have been dissolved; the patient is to take large draughts of this drink at short intervals. He has given as much as from six to ten drachms of the nitrate, dissolved in from three to six quarts of the gruel, during the course of 24 hours. This mode of treatment rarely fails in producing a great relief of all the symptoms in two or three days; and very often a complete cure of the disease is effected, without having recourse to any other mode of treatment, within a week from commencing the treatment. The nitred diluent usually causes very profuse perspiration, and generally also acts upon the bowels; if it does not, an aperient enema should be given occasionally.

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* It must certainly be rather difficult to substantiate such an assertion in reference more especially to hospital practice; as it is well known that the patients are almost always lost sight of after their discharge from the institution. How then can we determine with any degree of accuracy that in four instances only out of 86 cases of acute rheumatism did any cardiac disease supervene?

In our opinion, M. Chomel is as much inclined to under-estimate as M. Bouilland is to over-estimate the frequency of what the latter author calls the coincidence between acute rheumatism and cardiac disease: *in medio tutissimus ibis.—Rev.*

It is to be observed that Dr. Brocklesby's remarks are drawn from practice in military hospitals, where the patients are usually robust and healthy.

In 1772, Dr. Macbride, in his introduction to the theory and practice of medicine, recommended the same mode of treatment. Two years later Dr. William White (Observations on the use of Antimonial Preparations) makes the following remarks on the effects of large doses of saltpetre:

"The employment of this salt, after bloodletting, is very useful in the treatment of acute rheumatism; but it must be given to the extent of an ounce in the 24 hours, if the vascular irritation be considerable; small doses are of little service. In many cases of chronic rheumatism also, it is of great efficacy. Administered in the dose of from one ounce to an ounce and a half in 24 hours, it often cures the most severe cases of the disease, which may have resisted every other mode of treatment."

The use of the nitrate, notwithstanding such decided recommendations, fell into neglect, and although noticed by M. Bosquillon in his translation of Cullen, was not till 1832 when it was again brought to notice by M. Gendrin. One of his *internes* at the Beaujon Hospital, M. Aran, has brought together the reports of a dozen of cases treated with the nitrate of potash in full doses, dissolved in copious draughts of a mild demulcent diluent, very nearly according to the directions of Dr. Brocklesby. The dose of the salt varied from four to eight or ten drachms in the course of the 24 hours. The average duration of the treatment seems to have been about a week. In many of the cases there were well-marked symptoms indicating disease of the heart: these symptoms usually subsided with the suffering in the joints.

The *modus operandi* of the remedy was usually as a powerful diuretic and diaphoretic: occasionally too it acted on the bowels.—*Journal des Connoissances Medico-Chirurgicales.*

Remarks.—We are generally pleased with the *reproduction* of any of the remedies which were much used and recommended by the sound practical physicians of the last century, as most assuredly these gentlemen were much less influenced by pathological theories in their treatment of diseases than most of the writers of modern times. That full doses of the nitrate of potash should act beneficially in acute rheumatism, we are quite prepared to expect: for it will be found that all powerfully evacuant remedies, more especially those which act on the skin and kidneys, are more or less useful in this disease. One of the most generally useful of all remedies, in a large proportion of rheumatic cases, is the mistura guaiaci of the London Pharmacopœia; and it is observed that it is usually most beneficial when it acts on the bowels and kidneys. The vinum colchici, or the Dover's powder, may often be added with much advantage to it. Moderate bloodletting, and the exhibition of calomel at bed time, with or without opium, should seldom be neglected at the same time.—*Rev.*

ON THE TREATMENT OF WORMS.

1. *Ascarides.*—Aperient medicines, although they are not to be trusted to alone for the removal of these worms, are generally necessary. Strong drastic purgatives should be avoided. Rhubarb and aloes, with the addition of a small portion of some mercurial, may be given over night, and in the morning a draught of Epsom salts in a bitter infusion will be found to add to their efficacy. Instead of administering much medicine by the mouth, it is better to use enemata frequently. Common table salt, the muriate of soda, dissolved in chamomile or wormwood tea, to which some oil may be added, will often succeed admirably well. The sulphuret of potash may be used in the same way, or aloes dissolved in milk.

The tincture of the muriate of iron in water has been highly recommended by some writers; by others lime water is much esteemed.

M. Martinet advises that three different kinds of enemata should be administered, one after the other, at short intervals: first a common purgative injection to evacuate the bowels; then one to kill the worms and bring them away, consisting of common salt, or of vinegar with some bitter infusion; and lastly, an emollient oily one to soothe the irritation of the gut.

Bremser recommends an enema, consisting of the infusions of absinth, tansy, orange peel, and valerian with a small portion of the empyreumatic oil of hartshorn, immediately after each alvine evacuation, as it is more likely then to be retained, and as it will also come more immediately in contact with the animalculæ.

Injections either of cold water, or of a few ounces of olive oil, to which several drops of laudanum or of hydrocyanic acid may be added, will generally relieve the irritation of the anus, which is often so distressing a symptom.

By some of these means, the worms may almost always be dislodged and removed. To prevent their reproduction, it is necessary that the use of a tonic aperient be continued for a considerable time. Pills, containing rhubarb, aloes, myrrh, and sulphate of iron, will answer very well in a number of cases.

A powder, consisting of rhubarb, worm seed (semina santonici) and carbonate of soda, is well suited for children. The patient should be recommended to use a good deal of salt with his food; and vegetables and fruit should on the whole be abstained from.

2. *Lumbrici.*—Stronger purgatives are necessary for the expulsion of these worms than of the ascarides. A powder, containing calomel, jalap, and rhubarb, is perhaps as good a formula as can be adopted. Rosenstein has recommended a combination of sulphate of iron, jalap, and wormseed powder and sugar, to be taken for three mornings successively; while Stork's favourite remedy was an electuary composed of sal polychrest, jalap, and valerian, a drachm of each, and four ounces of oxymel of squills—in doses of half an ounce three or four times a day to an adult.

Bremser tells us that he derived great benefit from a combination of wormseed, tansy, valerian, jalap, and sulphate of potash—an excellent formula, if the compound was not so nauseous. When the worms are expelled, he recommends a mixture containing tincture of aloes, steel, and elixir of vitriol.

The cowage (dolichos pruriens), granulated tin, and steel filings have occasionally been used, made into an electuary with syrup or treacle, with advantage: but of late years they have generally been superseded by other remedies. A combination of carbonate of iron, powdered wormseed, and scammony makes a good formula. Equal parts of infusion of senna and of the infusion of the spigelia, or of the decoction of pomegranate bark, may be taken at the same time with benefit.

We have not yet alluded to two of the most powerful anthelmintic purgatives —viz. croton oil, and the spirit of turpentine. The former has the great advantage of being so easily administered; even the external application of a few drops, rubbed on the abdomen, will occasionally succeed in dislodging the worms. The turpentine may be either given by the mouth or administered in an enema; the oil may be suspended by means of gum arabic in milk or gruel.

Common table salt has been highly recommended against lumbrici by the late celebrated physician, Dr. Rush of Philadelphia, in doses of half a drachm every morning before breakfast for a length of time. A glassfull of sea water may be usefully substituted.

The tolerably free use of somewhat salted meat for food, at the same time avoid fruits and vegetables, has often been observed to be attended with much benefit to persons subject to worms.

Friction of the abdomen with some liniment containing turpentine, ox-gall, absinth, aloes, and such like medicines, or the application of a plaister containing assafœtida galbanum, camphor, rue, &c. are certainly sometimes useful.

3 *Tænia.*—The spirit of turpentine has of late years almost quite superseded every other remedy for the expulsion of this kind of intestinal worm. In administering it, the physician must be especially attentive to secure its purgative action; otherwise the urinary organs are apt to suffer from excessive irritation. For this purpose the patient should always be instructed to take a full dose of castor oil, or of some other certain apperient, in the course of an hour or two after the turpentine has been swallowed, if the latter has not already acted on the bowels.

It is well known to cause in many instances vertigo and great disturbance of the head, amounting sometimes to a state of complete intoxication; but these symptoms will gradually subside. The essence of lemons is perhaps the best disguiser of the unpleasant taste of terebinthinate medicines. Chewing a piece of orange peel immediately afterwards will often relieve the nausea.

The pomegranate bark, either in the form of powder or of a strong decoction, has been successfully used by several medical men. One or two scruples of the powder in a wine-glassful of cold water is to be repeated every hour to the fourth, fifth, or sixth dose. If the worm is not expelled, the same medication is to be repeated on the following day. The decoction is the form in which it is generally used by the French physicians; it is prepared by boiling two ounces of the bark in a pint of water; a wine glassful is to be taken every half hour or so, till half the pint is swallowed. It is well to follow it up with a purgative, in case it does not act on the bowels.

Most of the remedies, which we have allued to as useful against *lumbrici*, have been employed by different practitioners against tape-worms.

A combination of tin filings, fern root, wormseed, scammony, gamboge, and sal polychrest is a favorite remedy in some parts of Germany. Should the worm be partially extruded from the gut after a stool, the patient should continue to sit over the night-table, and swallow repeated doses of a solution of Epsom salts, or of any quickly-acting aperient, to induce further evacuations until the entire worm be expelled. Any attempts to pull it out with the fingers, or by affixing a portion of thread or tape to it, will almost always fail.

A course of vegetable and metallic tonics, with the addition of gentle aperients, should be continued for a length of time: the best are pills composed of aloes, rheubarb, and steel, along with some vegetable bitter infusion to which alkaline or neutral salts are added.

ON EPIDEMIC MENINGITIS.

Our readers, says the *Gazette Medicale*, must have heard of the epidemic of meningitis which, during the last few months, has prevailed at Versailles, Rochfort, Metz, and more recently at Strasbourg.

Dr. Wunschendorff has published a narrative of the disease, as it was observed in the latter town. He tells us that, after having reigned exclusively among the soldiers of the garrison, the inhabitants of the town became affected. The first case observed at the clinique occurred on the 14th of January; then, after an interval of six weeks, new cases presented themselves successively up to the 1st of June, since which date no fresh case has been seen. During this period of time, four months and a half, 40 patients were admitted with the disease; and of this number 21 died.

The exact *causes* of the epidemic remain quite inscrutable. In some cases, the disease appeared to spread by contagion; but the fact is not clearly made out.

The *necroscopic* appearances were those indicating intense inflammation, which frequently developed itself with a truely frightful rapidity; extensive injection of the pia mater, effusion of gelatiniform and somewhat purulent matter on the surface not only of the encephalon, but of the greater part of the spinal marrow. There were also, in almost all the cases, traces of a rudimentary or nascent inflammation of the villi and follicular glands of the intestines. Dr. Wunschendorff is therefore inclined to regard the disease of a *franchement inflamatoire* character. (If by this term the writer wishes to imply that the disease was a simple uncomplicated inflammation of the membranes of the brain, we have no doubt, *á priori*, that he is in error, and that he has allowed himself to be misled by the doctrines of the Broussaian school. In our opinion, every genuinely epidemic disease is necessarily dependent upon some atmospheric miasm, which induces a certain change in the circulating fluids, either by being directly introduced and so blended with them, or by some secret influence on the nervous system re-acting on the whole economy, and simultaneously affecting all the fluids and solids. This seems to us to be the only rational view that we can take of the development and effusion of fibrile diseases, which are not obviously the result of an antecedent local irritation, or of the suppression of an unaccustomed secretion, as of the perspiration or of milk for example. The practical value of this view of epidemic disorders is, that the physician is thereby led to a more safe and judicious mode of treating them than that inculcated by Broussais and his disciples. The fever has a certain course to run before the system is able to throw off the morbific cause; and hence all attempts to strangle it by violent remedies is unscientific and dangerous.—*Rev.*)

The *symptoms* of this epidemic meningitis were usually sudden headache, vertigo, and vomiting; then delirium, convulsions, and tetanic spasms of the jaw and trunk; and lastly coma, paralysis of the sphinchter and other parts of the body, and the usual phenomena of malignant typhus. The bowels were in most cases constipated at first, and subsequently became relaxed. The pulse was often remarkably slow at the commencement and in the early stage of the disease. In the majority of cases an herpetic eruption apout the lips made its appearance.

According to the predominence of certain symptoms, Dr. Wunschendorff describes an inflammatory, a neuralgic, a convulsive, a delirious, and a comatose form of the disease. But he has not been able to point out a connection between these different forms and any special modifications of the necroscopic phenomena —on the contrary, the morbid lesions discovered on dissection were almost always very nearly the same.

The *course* of the disease was very irregular; in many cases it exploded with symptoms of high excitement, under which the patient sunk, or which were succeeded by topor and various other phenomena.

The duration of the disease also varied much in different cases; in some it proved fatal in a few days, or even in a few hours, while in others it was lengthened, after the first violence passed away, to one or several months, before terminating in death or in a slow and painful convalescence.

The *diagnosis* was occasionally difficult, the disease assuming the characters either of malignant fever, follicular enteritis, or of apoplexy.

The *prognosis* was necessarily unfavourable. One half of the patients died; but this mortality is common to this epidemic with sporadic meningitis, which usually proves fatal in two of every three cases. In the civil hospital at Strasbourg, as we have already stated, 21 patients died out of 40 that were admitted; and in the military hospital the mortality was still greater—104 out of 176. The average age of the patients was from 18 to 25 years.

The *treatment* followed was actively antiphlogistic. The patients were usually bled several times, and at short intervals—varying according to the severity of the symptoms—during the early stage. Leeches were applied in great numbers to the temples and behind the ears, and cupping also along the spine was practised freely. Cold lotions were applied to the head, and in some cases mercurial ointment was smeared on the shaved scalp.

Having lost several patients, to whom calomel in large doses was administered, and as there were usually abdominal symptoms present, Professor Forget subsequently discontinued the use of intestinal derivatives, and trusted altogether to mild aperient enemata.

In the more advanced stage of the disease, much reliance was placed on cutaneous irritants. At this period, opium, in the form of syrup, seemed decidedly useful in mitigating the headache and delirium. All stimulant and tonic medicines were hurtful, except during the stage of convalescence.

We await anxiously the work which the Professor himself has announced to be in preparation, to learn more accurately the minute history of this very formidable epidemic.—*Gazette Medicale.*

SPONTANEOUS COMBUSTION OF THE HUMAN BODY.

The following conclusions are drawn by M. Jacobs from the reports of 28 cases related by different authors.

1. Spontaneous combustion occurs only in human beings, and never in the lower animals: and among the former only in the living and never in the dead body.
2. The majority of cases occurred in persons advanced in years; the youngest was 29 years old, and there were other two 50 years old; all the rest were above the latter age.
3. By far the greater number of victims were women: of the 28 cases, two only occurred in men.
4. In one case the catastrophe was preceded by a state of jaundice: and in another by the existence of an unhealthy ulcer on the head.
5. All the persons were alone at the time of the accident.
6. They had all led an inactive life.
7. They were all very fat and corpulent; with the exception of three of the women, who were thin, and of a dry habit.
8. The majority, but not all, had been addicted to drinking spirituous liquors.
9. In most of the cases, there had been a candle, or fire, or some burning body close to the spot where the accident occurred.
10. Spontaneous combustion usually proceeds with great rapidity, as in from one to six or seven hours.
11. The flame proceeding from the body was not readily extinguished with water; it was very lambent and moveable, and destroyed only such articles as were quite close to, or in immediate contact with, the burning body.

12. The room, in which the combustion had taken place, was in most of the instances filled with a dense smoke, and the walls were covered with a carbonaceous substance; the floor, the bones, and the ashes were coated with an unctuous and highly-fetid matter.

13. The trunk of the body was generally quite destroyed; the remains being only some parts of the head and of the extremities.

14. All the cases of this singular occurrence, with the exception of two, have taken place when the weather was cold, and usually during Winter, and in northern regions.—*Casper's Wochenschrift.*

ON THE TREATMENT OF DISEASES DEEMED INCURABLE. By PROFESSOR FORGET.

Bacon, in his celebrated work De Augm. Scient., uses these prophetic words: —*Neque igitur dubitabo inter desiderata reponere opus aliquod de curationibus morborum qui habentur pro insanibilibus.* We have not indeed the presumption to suggest any remedy or remedies for those diseases that are usually considered incurable; our only object is to draw the attention of medical men to a subject which well deserves their most serious reflection.

We do not propose to canvas the question what diseases are, and what are not incurable, as this would lead us into a tedious and perhaps unsatisfactory discussion of terms; nor shall we venture at the present time to endeavour to explain how such diseases usually prove fatal to life.

In the case of such organs as are double, Nature herself sometimes supplies the deficiency caused by the destruction of one of them; we may allude, for example, to certain cases of the destruction of one kidney, or of one testicle, &c. The destruction of parts, which are not essential to life, can be viewed only as an infirmity. *Eh bien!* let us take the case of the most noble of all the viscera, the encephalon. Now it is an admitted axiom in cerebral pathology, that the destruction of those parts, which preside over certain nervous functions, causes the definitive abolition of these functions. Is this axiom true in all cases? Are there not examples of apoplexy, of softening having induced the melting down (*fonte*) of a part of the brain, and of protracted paralysis, which nevertheless have ultimately been cured? In propounding this axiom, have pathologists calculated all the resources which Nature can develop by means of nervous anastomoses, and all that may arise from following out a judicious and persevering course of medical treatment? Such fortunate results are rare, it is true; but that they do exist, cannot be disputed: and, despite the proverb, these exceptions, it must be admitted, really do invalidate the rule.

Now what is true of the destruction of organs, must, *a fortiori*, be still more so of the alteration of tissues. The greater number of organic lesions consist in the deposition of matter, which is either analogous or not to the natural tissue of the part. *Eh bien!* Nature possesses a power directly opposed to this tendency to abnormal secretions—viz. absorption: the difficulty consists in putting it into operation. Perhaps the mechanism, or *modus operandi*, of our alterative and discutient remedies only consists in the property of quickening this power of absorption.

As to the morbid states called functional or dynamic, in which there is no appreciable alteration of tissue, as we are ignorant of their essence, we have always a right to anticipate a cure of them. This remark is, we suppose, intended to apply to such diseases as tetanus and hydrophobia.

These considerations, which might be easily extended, are so many motives for encouragement to attempt the cure of some diseases that are still deemed incurable, although it must be confessed that we must not allow ourselves to be at all sanguine about the results, and we should ever be on guard against being misled by many statements which we every day hear of marvellous cures of such and such disorders.

There lies the difficulty of practice; for the more rebellious that a disease is, the more energy is required in attempting to subdue it, and the greater is the danger of active remedies causing the supervention of fresh accidents on the original malady. To know when to do nothing is a precept but little understood by the majority of medical practitioners, who seem to imagine that there is always a possible remedy for every form of disease, whatever that may be.

But listen on this subject to some of the oracles of our profession. Frank expressly tells us, "when a disease is recognised to be incurable, we ought to abstain from all vain efforts to try to cure it; and this precept is especially applicable to such therapeutic means as are unpleasant and painful. The medical man who employs such is no better than an executioner; it is better that a patient should sink under his disease, than that he should die from the effects of any remedies that are employed." Sydenham and Stoll have expressed the same sentiments; and Tissot very justly remarks, "It is the part of a skilful physician sometimes to prescribe no medicines at all."

Pernicious Effects of powerful Remedies in Chronic Diseases.—In truth, how many paralytic patients sink under some cerebro-spinal lesions excited by stimulating remedies of the nervous system, such as strychnine for example! How many phthisical patients fall a sacrifice to a colliquative diarrhœa, aggravated by the use of pretended incisive and solvent (fondants) medicines, as alkalis, which only serve to irritate the mucous membrane of the stomach and intestines! How many dropsical patients suffer from the use of drastic purgatives, or of powerful diuretics and diaphoretics, all of which must primarily act on the alimentary canal! How many unfortunates, labouring under some organic disease of the heart, or liver, or spleen, are poisoned by the injudicious administration of digitalis, mercury, iodine, &c.! and, lastly, do we not often see the system undermined by the continued use of arsenic and other irritants in hopeless cases of cancer and other incurable disorders!

It would be easy, says M. Forget, to extend the catalogue of this lugubrious litany, known only to the consciences of medical men. Much evil has resulted from that perfidious maxim of Celsus, "*Melius est anceps remedium adhibere quam nullum:*" there is much sounder wisdom in that which inculcates upon us, "*primo non nocere,*" and in the advice of Stoll, "*Nil magni facias ex merâ hypothesi.*"

Some, we know, will object to these remarks which we have now made, and charge us with unnecessarily abridging the useful exertions of the physician. It is not the use, but the abuse, of remedies that we are condemning. Even in the case of hopelessly incurable diseases, much may be done by the judicious medical man in the way of soothing pain, calming mental distress, and sweetening and even prolonging life: such is one of the most holy duties of our noble profession.

When Sydenham said that without opium he would renounce practice altogether, he no doubt had in view the long and mournful catalogue of chronic maladies, the suffering from which may be so often mitigated by this and other analogous medicines. Let us learn then how to assuage the pains which we cannot prevent, and even when we fail in our best endeavours, let us learn how to console the sufferer.

As to the means best fitted to limit, if not arrest, the ravages of incurable diseases, they may be all deduced from an important law of pathology, which is far too little understood and acted upon; it is that many chronic maladies prove fatal by the complications which they call into action. Thus apoplexy often kills by the softening of the cerebral substance induced by the extravasated blood, which has been acting like a foreign body; pulmonary tubercles excite a subacute inflammatory action in the surrounding parenchymatous tissue; aneurism of the heart and hypertrophy of the liver, by the serous and sanguineous congestions which they give rise to; and cancer, by the exhaustion of the whole system, and by the cachexia brought on from the absorption of ichorous matter into the blood.

Without, therefore, vainly persisting in attempts to withdraw the cerebral coagulum, the removal of which can only be the slow work of Nature, let us strive to combat the congestion that is induced by this fatal thorn; without trying to melt away rebellious tubercles, it is better to check and dissipate the inflammation which exists around them; without endeavouring to modify the nutrition of an hypertrophied heart or liver, diminish the quantity of blood that passes through them, and draw the irritative process outwardly, and act gently on the various emunctories of the body; and without ever dreaming of extirpating an organ like the uterus, when corroded with cancer, support the system by mild food, and keep the surface of the ulcerated parts clean with anodyne washes.

Whatever be the disease that exists, soothe and mitigate pain; for this not only exhausts the frame, but inevitably aggravates the local mischief. While we pursue with prudence and modesty our sanatory labours, it sometimes happens that kind Nature crowns with unexpected success our submission to its mysterious decrees; in combating the auxiliaries, we sometimes will triumph over the principal enemy: in several cases the apparent cure of phthisis in our own practice has been the effect of a treatment purely lenitive, and in no manner specific; in truth, chiefly of a mild regimen.

Much may unquestionably be often done by a judicious regimen: "*Abstinentiâ et quiete multi magni morbi curantur......... optimum medicamentum est cibus opportune datus*," says Celsus; and Jos. Frank confirms the opinion of the Roman: "dietetic regimen constitutes at once the most certain and the most copious source of therapeutics. A great number of diseases are in truth to be cured much more surely by the judicious selection of food and drink, by change of residence, amusement of the mind, &c. than by all our arsenal of medicines;" and how substantially true are these few words of the great English physician, Sydenham; "It has often occurred to me that in the treatment of diseases we go on too fast, and that we should leave much more to be done by nature."—*Gazette Medicale de Strasbourg, No.* 1.

ON THE OBSCURITY OF THE SYMPTOMS OF PNEUMONIA IN OLD PEOPLE.

Professor Cazeneuve prefaces his remarks on this interesting subject with briefly reporting two cases in illustration.

Case 1.—Madame B., 82 years of age, and of a frail constitution, but whose health had been almost uniformly good, was, after exposure to a draught of cold air, rather suddenly seized with a shivering fit, followed by general heat. The feverish state continued next day, and as there was a marked exacerbation towards the afternoon, the physician who was called in considered the case to be one of ague, especially as this disease was prevalent at the time in the neighbourhood. Next day Dr. Cazeneuve saw the patient, and was inclined to take the same view as his confrere: there was no cough, nor any complaint of pain in the chest; and this absence of pulmonic distress induced him to omit ausculting the chest. On the fourth day, however, the old lady began to complain of a feeling of *malaise* at the lower part of the right side of the chest. The sound of percussion over this part was found to be duller than elsewhere, and a tolerably strong rhonchus and also a bronchial sound, but no crepitant rale, were heard on auscultation: the rest of the thorax gave out a vesicular respiratory murmur. There was no dyspnœa, nor any expectoration present; the general prostration was great: the pulse 110 and tolerably full. Twelve ounces of blood were ordered to be taken from the arm: but, as the patient would not consent to the operation, 15 leeches were applied over the affected part instead. On the following day, the bronchial sound was louder than before, and the dunless on percussion was greater: still there was very little cough, and no expectoration.—The bleeding was again recommended, and in the evening ten ounces were taken away; it soon became covered with a thick buffy coat; the night was restless, and the patient occasionally delirious. The bleeding was repeated to the same amount twice next day, and the blood was again found to be sizy each time.—On the following (the seventh) day, the bronchial respiratory sound was less distinct and was in part replaced by a light submucous rale over the lower part of the right lung; repeated doses of antimonial wine were given, and a Burgundy pitch plaster was applied over the affected part of the thorax on the eighth day, a fourth bleeding to the amount of ten ounces was practiced, and still the blood was found to exhibit a buffy coat. In the course of a few days from this time, the patient was convalescent, although a light submucous rale continued to be perceptible over the base of the right lung.

Case 2.—A physician resident in Paris, 62 years of age, exhibited nearly the same train of phenomena as those now recorded to have been present in the preceding case. There was no cough or expectoration; only a slight aching was felt in the back and between the shoulders: the sound on percussion of this part was rather dull, while the rest of the chest was quite resonant; no crepitant rale was audible, but only a loud bronchial respiratory sound; the general prostration was great. All the symptoms were checked within 48 hours by three bleedings from the arm, and the application of a number of leeches to the chest.

In this case, the pneumonia was so masked and so difficult to be detected without the aid of percussion and auscultation, that a distinguished physician of the metropolis pronounced the case to be one of rheumatism of the back.

General Remarks.—It is to be kept in mind that the chest of an old person in health is usually very resonant on percussion, in consequence of the diminished thickness of the muscular and tegumentary covering, the absence of fat, the ossification of the ribs, and the prolonged *sejour* of the air in the enlarged pulmonary vesicles. On the other hand, the vesicular respiratory murmur is usually feeble: it is no longer the soft silky sound of younger age, but has always more or less of a blowing character. Besides, the expiratory sound is more distinct than it used to be—in consequence probably of the dilatation of the vesicles, and the diminished elasticity of the lung causing it to subside less slowly than formerly during the act of expiration.

Keeping these circumstances in view, we shall now briefly notice the chief peculiarities in the two cases which we have recorded above; the peculiarities were the unusual resonance of the thoracic parietes, and the absence of the crepitant rale, as well as of cough, expectoration, dyspnœa, and pain.

1. As we have already explained, there is normally a greater resonance of the chest on percussion in old than in middle-aged persons: hence it requires a greater extent of hepatisation, or a larger amount of effused fluid within the chest, to cause a decided dulness of sound: very rarely indeed is the dulness so great in old people, as we not unfrequently meet with in younger patients.

2. As to the absence of the crepitant rale, which, it is well known, is usually described as the characteristic auscultatory sign of pneumonia, we have to remember that, for the production of this phenomenon, it is necessary that the air encounters a more or less viscid fluid in entering the pulmonary vesicles, and

that these vesicles expel the admitted air with considerable force. The smaller these vesicles are, the greater will be the elasticity of the lungs, and the more readily will the rale be generated; and *vise versâ*. Now in old age the vesicles are irregular and dilated, and the elasticity of the lungs is considerably diminished: hence the dry crepitant rale is rare, and the respiratory sound is usually rough and bronchial.

It is known that M. Cruveilhere attaches more importance in the diagnosis of pneumonia to the presence of the bronchial *souffle* than to that of the crepitant rale. This may probably be owing to his having studied the disease chiefly among the aged inmates of the Saltpetrière, of which he is one of the physicians.

3. Again, the absence of dyspnoœa is likely to mislead the practitioner: it is probably owing to the slowness and the diminished activity of the respiration, as we advance in years. Hence any impediment to the free admission of the air into the vesicles is attended with much less embarrassment in old people. The absence or frequency of the cough and expectoration may be owing to the circumstance of the mucous membrane being but little affected, the inflammatory action being confined chiefly to the parenchymatous tissue of the lungs

4. As to the production of pneumonia in our two patients, let us remember that, in old age, the tonicity of all the tissues being much diminished, the blood moves slowly in the vessels; the circulation is therfore easily embarrassed, and hence even from a slight cause the alterations which constitute a phlegmasia are generated. At first there seems to be a congestion in the most depending part of the affected lung, and in three or four days afterwards the symptoms of pneumonia supervene. These ideas recal to our mind the *Boerhaavian* theories which so long were prevalent, and which have probably been too much neglected since the time of Haller and Bichat. It must be confessed that, in studying many of the diseases of old age, and more especially pneumonia, we often meet with a confirmation of the opinions of the learned professor of Leyden.

5. The two cases, which we have briefly alluded to, shew that we must not be over timid in the use of bloodletting and other means of depletion, even in very old patients. The debility and prostration are very apt to impose on the inexperienced; but let it always be remembered that the morbid process is much more enfeebling than even the active adoption of antiphlogistic measures. Moreover, leeches or even cupping the chest is not nearly so useful in old as in middle-aged patients, in consequence of the diminished activity of the cutaneous vessels as we advance in years. As a general remark we may observe, that the efficacy of these local depletions is proportionate to the age of the patient; hence their great utility in the treatment of the diseases of children, and their comparative powerlessness in the diseases of adult and of old age. We must, as a matter of course, be more guarded in the use of vigorous means of the treatment of old persons; but their mere age can never be a sufficient reason for not having recourse to bloodletting, wherever there is reason to believe the existence of inflammatory action in any important organ.

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Whenever there is great prostration and feverishness at the same time in an old person, it is prudent to examine attentively the state of the lungs. The epidemics of adynamic fever observed by Pinel at the Saltpetriere were only so many cases of pneumonia among the aged inmates of this immense hospital.—Pinel had not learned to attribute to the lesion of one organ this *ensemble* of symptoms which he described under the term of adynamic fever.* The adynamic state, which is so common in the acuto disease of old age, is attributable to the difficulty experienced by the system at this period of life to repair the losses sustained (les pertes eprouvées) by the nervous system.

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* Dr. Cazeneuve surely pushes his views a little too far in this assertion; it is to be noticed that he is quite a supporter of the doctrine that refers all fevers to a local morbid lesion—a doctrine to which we cannot give our assent.—*Rev.*

In conclusion, we may observe, that almost all the cases of pneumonia in old people may be traced to the influence of exposure to cold. Hence the importance of warm clothing, warm rooms, &c. for such patients. The great age of Buffon and also of Voltaire was probably owing in not a little degree to the extreme care which these celebrated men paid to the circumstances now mentioned.—*Gazette Medicale.*

ON PARACENTESIS THORACIS. By M. SEDILLOT.—CASE OF PARACENTESIS OF THE PERICARDIUM.

The diagnosis of effusions into the cavity of the pleura is one of the most valuable discoveries of modern medical science; we need scarcely add that we owe it almost entirely to the aid of auscultation. We have only to read the works of Baglivi, Morgagni, and Bayle, (Recherch. sur la Phthisie, p. 335,) to discover how often, nay how generally, the nature of the disease in question was mistaken until revealed by dissection. When percussion first began to be practised, all was uncertainty and doubt. By means of this simple test, an important step in diagnosis was obtained: "*Verum si media pars aquâ repleta fuerit, evocabitur resonantia major in illâ parte quam aquosus humor non occupaverit,*" says Avenbrugger, in his truly valuable work. But with candour he admits the insufficiency of percussion on too many occasions. How pregnant with important truth are these words, in which he describes the insidious progress of effusions into the cavity of the pleura: "*Observavi sæpe sub tussi prope nullâ, aut respirationis incommodo, integrum thoracis latus sonitu carnisse tunc quando, ex febri acutâ convalescens, sub febri erraticâ vix ægrotare visus est medico, donec, morbo sensim crescente* (*forsan etiam tunc nondum cognitâ mali sede*), *vel hydropico tumore semisepultus, vel ad pellem et ossa usque consumptus, periisset.*"—(Invent. Nov. &c. Vindobonæ, 1761.)

.... Although great progress has been made of late years in the diagnosis of pleuritic effusions, it must nevertheless be confessed that the success of our treatment is on the whole far from being satisfactory. Hitherto the use of internal remedies has almost always failed in promoting the absorption of the fluid, when the quantity of this is at all considerable; hence we have been obliged to have recourse to a surgical operation to give the patient a chance of recovery. If this be not adopted, the patient becomes more and more emaciated, anasarca comes on, attended often with a colliquative diarrhœa and hectic fever, and, after a period more or less protracted according to the strength of the constitution, and still more to the nature of the effused fluid, whether it be purulent or not, death inevitably follows.

In the valuable thesis of M. Raymond Faure, recently published, we find the following directions as to the proper time to puncture the thorax. "It appears to us to be called for whenever a fair trial of those means that are calculated to promote absorption has been made, and without avail, for the relief of the symptoms: to insist too long on the employment of these curative means, the action of which is at best indirect and doubtful, appears to be not only useless but positively dangerous, for the following reasons: 1, the accumulation of the fluid within the pleura gradually increases the compression of the lung, until it ultimately prevents its expansion; 2, the fluid keeps up a constant irritation of the pleural membrane, either by distending it or by acting as a direct stimulant on its surface; 3, by separating the ribs from each other, it forms a mechanical obstacle to the obliteration of the costo-pulmonary cavity, which is the very principle and condition of a cure being effected; 4, the activity of the process of absorption is always inversely proportionate to the quantity of fluid effused; 5, the successive evacuations imitate the process of Nature, by which she sometimes effects a cure of empyema by forming an outward abscess in the thoracic parietes; and, 6th, the increase and prolonged *sejour* of the fluid in the chest brings on a cachexia of the whole system, which inevitably proves fatal in the long run."

M. Sedillot has taken great pains to collect the results of almost all the cases on record, and, while admitting that the success on the whole of the operation of puncturing the thorax has been far from encouraging, he points out with much justice that not a few of the failures have been attributable to an ill-judged delay, or to some other mismanagement of the case.

If we were to judge of the propriety of the operation from the practice of Dupuytren, we must entirely abandon it; for out of 50 cases, 48 proved fatal; and M. Velpeau tells us that of 12 cases, in which he performed it, not one was fortunate.

The directions which M. Sedillot gives are these: 1, not to operate during the acute stage of the disease; the rash trials made a short time ago at the Hotel Dieu prove the necessity of such an advice; 2, to operate, before the lungs have lost their power of expansion; 3, to put off the operation as long as possible, whenever there exist any incurable complications; for then it can only be regarded as a palliative.

Our author is however surely in error, when he states that the complete absence of all respiratory murmur is an absolute contra-indication of the operation. We have met with cases where no murmur could be heard at any part of one side, except perhaps in the subclavicular region, and which yet recovered ultimately. We are not therefore to abandon such cases as incurable, however unfavourable our prognosis may be; and, on the other hand, we must not be too sanguine as to the lung recovering its entire expansibility, merely because the murmur is distinctly perceptible. We need scarcely add that, whenever we have reason to suspect the complication of tuberculous deposit, our prognosis as to the result will necessarily be more guarded than otherwise.

M. Sedillot thinks that the nature of the effused fluid may be predicated from the existing symptoms; for there is always more fever and more local uneasiness according as this is more or less purulent. To a certain extent only this opinion is correct; but certainly no judicious physician will be confident on this subject. As to his advice to try the effects of injecting any fluid into the cavity of the pleura, after withdrawing the effused fluid, we must positively and *in toto* condemn it as most dangerous, in spite of the high authority of M. Recamier to the contrary.

In the 33d vol. of the *Medicinische Jahrbucher*, recently published, there is a paper by Dr. Schuh of Vienna on paracentesis of the pleura, and also of the pericardium. During last year he performed the operation of puncturing the pleura in 44 cases—in eight of which a complete cure was effected, in four the patients died, and in the remaining 32, a decided, but not a permanent, relief was obtained. The chief danger consequent on the operation is the introduction of a considerable quantity of air into the cavity of the chest, when the fluid is withdrawn. This is apt to take place, it is well known, whenever a deep inspiration takes place.* He advises that a portion only of the effused fluid should be allowed to escape, when the disease has been of long standing: otherwise the lungs may not expand sufficiently to fill up the empty space. In some cases of purulent effusion, it is found expedient to retain a small caoutchouc canula in the wound, and allow the matter to drain off once or twice a day.

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* Perhaps the simplest as well as the most effectual means of preventing this dangerous accident is that recommended by Dr. Reybard of Lyons, and described in the last number of the *Medico-Chirurgical Review*, p. 193.

Paracentesis of the Pericardium.

In one case, occurring in a woman 24 years of age—in whom were all the symptoms, well characterised, of dropsy of the pericardium, to such an extent as to threaten suffocation—Dr. Schuh introduced a trocar between the third and fourth ribs, very near to the edge of the sternum, between it and the course of the internal mammary artery. At first only a few drops of blood flowed out: a small bougie, passed along the canula, touched the great bloodvessels, the pulsations of which were distinctly felt. The operation was immediately repeated between the fourth and the fifth ribs, when there flowed out slowly, and in a stream (en nappe), a certain quantity of reddish serosity. The patient slept tolerably well the first night, the dyspnœa being much less than it had been for a length of time, and, in a few days after, the general œdema of the legs was considerably diminished. By the end of the third week the effusion into the pericardium had quite disappeared.—*Gazette Medicale.*

Remarks.—Our chief reason for introducing the above notice of M. Sedillot's memoir is to draw the attention of our readers to a most valuable paper on the treatment of pleuritic effusion by the late Dr. Hope, whose recent loss must be deeply deplored by all who take an interest in thoracic pathology. He there points out how much may be done by a vigorous adoption of appropriate treatment; his chief remedies being the internal and external use of mercury, the application of repeated blisters, the administration of diuretics, and occasionally of hydragogue cathartics, and the use of a nutritious animal diet to support the strength of the patient. His remarks on the errors of diagnosis of this complaint are especially important, and likewise his novel observations on the means of arresting the hectic fever which is always present, when the effused fluid is purulent. According to his extensive experience, it is rarely necessary to have recourse to the operation of puncturing the chest. "If," says he, "Dr. Stokes has cured twenty cases running by Lugol's solution and ointment of iodine, together with blisters and other means, and I have cured thirty-three consecutive cases by other means, we must admit that fifty-three cases cured successively, without selection, afford a strong presumption that all really *curable* cases are curable without paracentesis." This announcement is at once most unexpected and most gratifying. The whole of Dr. Hope's paper cannot fail to be read with the deepest interest by all medical men.—*Rev.*

CONSULTATION ON A CASE OF HERMAPHRODISM.

M. Benoit was consulted last year by Marie B——, 27 years of age, and registered in one of the towns of the department of Tarn as a girl.

When 14 years old she became aware that there was some peculiarity in the conformation of her genital organs, and she therefore applied to a medical man, who assured her parents that a simple operation would set her all right. An incision was made for the purpose of re-establishing the opening of the vagina; but this not being found, nothing else was done. Shortly before consulting M. Benoit she had been asked in marriage, and at first refused the offer; but, as her lover persisted in his addresses, she at length declared the cause. The account, which she gave to M. Benoit, was as follows: when about 14 years of age, she observed in the right inguinal region a small swelling, which was very painful for some time, but disappeared soon afterwards. Although she suffered considerably from headache, languor and general uneasiness, there had never been any sanguineous discharge.......Below the mons veneris, which is altogether similar to that usually observed in women, there is a fissure terminated on each side by two thin corrugated labia, which are slightly covered with hair, and stretches backwards towards the anus. This fissure is only about three quarters of an inch deep: its anterior commissure terminates in a diminutive penis-like organ, which is provided with a prepuce, a gland, two cavernous bodies, but without any terminal aperture; it is subject to erections, and becomes then considerably longer. At the root of this organ, on its inferior surface, there is an opening which communicates with the urethra; constituting therefore the *vitium conformationis* known by the name of hypospadias. This opening, at rather less than three inches from the anus, leads into the bladder by a canal which is curved, as in the male subject; but is only about three inches long. When a sound is introduced into the bladder, and a finger passed up the rectum, there seems to be only a thin septum between them, but not any trace of prostate gland. In the inguinal region (it is not stated on which side) there is a small round and moveable body under the integuments.

From this state of parts, M. Benoit gave it as his opinion that the sex was male, and that his patient was incapable of contracting marriage.—*Journal de Montpelier.*

M. RACIBORSKI ON THE PHYSIOLOGY OF MENSTRUATION.

Our readers will remember that in our recent review of M. Gendrin's Traité Philosophique, we drew their attention to this curious, and hitherto ill-understood, subject of physiological enquiry. From the researches of this gentleman, and from those of M Negrier, as well as of Dr. Robert Lee, it was suggested that there is an actual rupture of one of the ovarian vesicles at each period of menstruation, and that the sanguineous discharge from the uterus was the result of this lesion. M. Raciborski questions the accuracy of this statement. While he admits that the primary movement in each act of menstruation is a congestion of the vessels of the ovaries, he denies that any rupture of their surface necessarily takes place at the same time.

"Having examined," says he, "in a great number of cases, the ovaries of women who had borne children, we feel assured that, as a general rule, the number of the cicatrices on the surface of the ovaries is always proportionate to the frequency of actual impregnation, whether it has been a genuine or only a false conception."

Some of the subsequent statements of M. Raciborski himself seem, however, to be at variance with this assertion, and partially to confirm the idea of frequent, if not of invariable, rupture during menstruation. Having quoted the opinion of M. Negrier, which is expressed in the following words: "An afflux of transparent fluid takes place into the cavity of one of the superficial vesicles of the ovary: this fluid, by its accumulation, depresses the yellow matter, distends and attenuates this last (the vesicle?) at the point which presents the least resistance; the ovarian envelopes are at length raised up, distended, and ruptured, with the vesicle," our author thus comments upon it.

"According to the distinguished professor of Angers, there must take place, once a month, in the female constitution, a phenomenon analogous to what we observe to occur in many birds. Women, like hens, must have the power of detaching ova from their ovaries without any previous fecundation. But, before we can admit so startling a proposition, we require to have more conclusive data than those hitherto made public. As to the statement that cicatrices with red edges, or small pouches filled with blood, have been found in the ovaries of women who had menstruated shortly before death, we may observe that on many occasions we have observed similar alterations in the bodies of women in whom the catamenia had been suppressed for several months, as is gnerally the case, for example, in those who die of phthisis."

M. Raciborski sums up the conclusions to which he has come, after a very elaborate enquiry, in the following propositions:

1. That menstruation is in consequence of the accomplishment of the development of the ovaries.

2. That it is the direct result of the means employed by nature to place the ends of the Fallopian tubes and the ovaries in the relations necessary to fecundation and the passage of the fecundated ova.

3. That the sanguineous conjestion, which is indispensable for obtaining those conditions in the human being, appears sufficient in itself to explain the occurrence of the hæmorrhage which constitutes menstruation—without having recourse to supposing that there is any necessary solution of continuity.

4. That the vertical position, favouring still more the effects of sanguineous congestion on the generative organs, may be one of the principal reasons of the abundance of the menstrual flux in women, and in some species of simiæ.

5. That, for want of having precise information as to the nature and theory of menstruation, it has been hitherto impossible to establish a rational treatment of the various disorders induced by irregularities of this function.

6. That it is not yet sufficiently proved that the ovula arrive successively to maturity at each menstrual epoch, or that the most mature ovum then approaches nearer the surface of the ovarium, there to become ruptured and give exit to a germ. *L'Experience.*

M. MAGENDIE ON ANIMAL MAGNETISM.

At the meeting of the Academy of Science on the 24th of June last. M. Magendie read a report on a case of alleged cure of a deaf and dumb person, which had been communicated by M. Dupotet (the Baron, we suppose, who took French leave from London two or three years ago.)

As we had not seen the patient, says the reporter, before she was under treatment, we could not have vouched for the cure, even had it been complete; but unfortunately for both patient and doctor, it was far from being so. The case was simply one of deaf and dumb infirmity, in which the invalid could perceive sounds when very loud, and could understand a few articulate words.

To judge of the efficacy of his treatment, we proposed to M. Dupotet to try it on the three inmates of the deaf and dumb institution, whose actual state might be ascertained beforehand.

He agreed to this proposal, and required eight days for effecting a cure: we granted him fifteen. The Three perons, whom we trusted to his care, were not insensible to every kind of sound,—in truth, this extreme degree of the infirmity is very rare—all of them could recognize certain sounds, if not by the ear, at least by the vibrations of surrounding bodies. At the end of the eight days, M. Dupotet represented them as cured, and as capable, with proper instruction, of taking that position in society to which they were entitled. Our three patients had, we admit, gained a little more sensibility of hearing; the explosive words, such as *papa*, *Dupotet*, were pronounced with rather more facility than formerly: but this was all the extent of the improvement.

They were not at all surprised themselves at the change, and the physician of the establishment told us that the amendment was in no respect different from what might at any time be affected, whenever the faculty of hearing is more than usually exercised, but that this continues for a very short time, and then the patients relapse into their former condition.

M. Magendie stated that he had recently seen the deaf and dumb boy, Tresel, who had been said to be cured by injections into the tympanum of the ear. Although the case is now of long standing, and he has received all the benefit of a most assiduous care, his speech is still extremely imperfect, and he can scarcely do more than repeat the words which he is in the habit of hearing pronounced in his presence. It seems therefrom that it is not sufficient to restore to the deaf and dumb persons the power of hearing and speaking, but that it is necessary to give them at the same time the instinctive desire of speech which induces children to practise it of themselves, without being solicited.

As to the three patients committed to M. Dupotet, they have not continued the treatment which he used, although an offer was made to him to send them to his house three times a week for the purpose. Since that time, we have heard no more from him. We must therefore in conclusion pronounce that the cure alleged by him to have been affected by animal magnetism is quite without foundation.

It appears from the report of a subsequent meeting of the Academicians, that it was resolved by a large majority, that they will not hear anything more on the subject of this mysterious science! Several of the members indeed objected to this peremptory decision, asserting that, although there is much quackery in many of the statements of its admirers, there seems to be some observations and phenomena, which deserve to be more attentively examined. MM. Cloquet and Bouillaud expressed themselves to this effect; and on the other hand M. Breschet said that, as the Academy of Science had come to the resolution to proceed at once to the order of the day whenever the question respecting the quadrature of the circle or perpetual motion was brought forward, the subject of animal magnetism should be dealt by them in the same way.

ANNUAL REPORT OF THE VACCINATION COMMITTEE OF FRANCE.

The following are the general conclusions of this Report read by M. Gauthier de Claubry, at the Royal Academy of Medicine.

1. In the epidemics of small-pox which have occurred in different department's vaccination has unquestionably continued to possess the power of arresting the evil, by reducing the genuine variola to a varioloid disease.

2. Throughout France the immense majority of those who have been some time vaccinated has remained unaffected either by the sporadic or by the epidemic variola, although in immediate contact with those who were suffering.

3. Vaccination invariably induces a favorable modification on the course of variola, whether the disease was in its early or in its advanced stage.

4. Some cases of varioloid disease which nearly resembled variola, and several even of variola itself, have occurred in vaccinated persons, although many of the observations are manifestly incorrect. For, on the one hand, the appellation of variola has often been given to an eruption which has lasted only three days; and, on the other hand, it is but too apparent that many of the certificates of an alleged successful vaccination cannot be trusted to. We can confidently affirm that after an attentive exmination of numerous cases of variola and of varioloid eruption occurring after vaccination, we have always found the disease to be less severe than eruptions of the same nature appearing after a first attack of variola.

5. The majority of observers deny that the vaccine virus has undergone any change by having been transmitted through a multitude of persons. Several practitoners have vaccinated one arm with the ancient, and another arm with the renewed, virus, and the vesicles on both arms have been observed to be quite the same.

6. Most medical men disapprove of re-vaccination, at least as a general measure, on the ground that, by thus exhibiting a want of faith in the protecting powers of the remedy, the confidence of the people would be inevitably much shaken, and greater difficulty than hitherto would be experienced in inducing them to submit to it. Moreover, the partisans of re-vaccination are not agreed as to the proper time of resorting to it.

7. In 1839, of 6652 re-vaccinations, which were carefully watched, a pustule similar to the normal one was observed in 718 cases; in 1283 cases the pustule was of a doubtful character; and in 4651 the operation failed completely. It thus appears that a large majority of persons are not capable of contracting vaccinia twice, and consequently that re-vaccination is generally useless.

8. Even when re-vaccination has had a positive result, it has not always protected the person from the contagion of variola.

9. Even supposing that re-vaccination had the effect of bestowing complete protection, we could not in this way hope to extinguish the variolous infection, as it would be almost impossible to cause it to be adopted as a universal measure.

M. Piorry observed that he heard with regret the statement in the preceding report, that re-vaccination should not be adopted as a general measure. I have, said he, practised re-vaccination in a great number of cases, and without having kept an exact account of the cases where it produced a positive result, I may confidently affirm that, in a fourth or fifth of the cases, the operation has induced a local eruption, the characters of which are to those of genuine vaccinia as the characters of the varioloid disease are to those of genuine variola. Is it not, therefore, possible that re-vaccination might protect from the varioloid disease, which we know is sometimes very severe, as the first vaccination does from variola itself? For this reason I am of opinion that some of the conclusions of the report be not so decided and peremptory as they at present stand.

M. Bousquet:—From the trials of re-vaccination, of which I have been able to verify the results, it follows that, of 138 operations, a perfect normal pustule was induced in 30. I re-vaccinated 90 persons at Versailles, and of this number I obtained 37 genuine vaccine pustules. These results are conclusive, in my opinion, in favour of re-vaccination; the facts cannot be disputed, for they occurred under the inspection of two excellent practitioners at Versailles, MM. Vitry and Boucher.

Several other members of the Academy, including M. Bouillaud and M. Dubois, agreed with the preceding speaker, that the report of the committee was too decided and peremptory in some of its conclusions.

Remark.—It would seem that the results of re-vaccination are very different in different countries. Nowhere has it been practised with so much success and on so large a scale as in some parts of Germany. We observe that, during last year, 42.522 soldiers in the Prussian army were re-vaccinated; in 34,573 of whom distinct cicatrices on the arm were present, in 6,177 the cicatrices were indistinct, and in 2,772 none were to be seen. The progress of the re-vaccination is stated to have been regular in 20,952 persons, irregular in 8.820, and to have failed in 13,750; in several of the last the operation was repeated, and with success.

The more that we consider this important question, the more convicted are we that many statistical reports are little to be trusted to, as affording safe or conclusive data to build general deductions upon. Unfortunately a great number of first vaccinations are reported to have been successful, without having been properly examined.—*Rev.*

SCENE IN THE FRENCH ACADEMY.

M. Amussat read a new communication on the cure of stammering by a surgical operation. Having stated that up to the present time (25th February) he had performed the operation of dividing the *genio-hyo-glossi* muscles in nine cases, he now brought forward two of the patients to be examined by the members, and other two on whom he proposed to perform the operation, in order that no doubt might exist as to the extent of the infirmity to be relieved. He then exhibited to the Academy a pathological specimen, which he had received from M. Begin; this was the tongue of an old soldier, who had always stammered a great deal in his speech, and had recently died at the Val de Grace. The two lateral halves of the organ were of unequal size, the left one being flattened, while the right was thick and swollen. This state of the tongue seems to shew that one of the chief impediments to unembarrassed pronunciation consists in an abnormal conformation of the organ; being too short or drawn to a side (*devié*) by the contraction of the genio-glossi muscles, their section will account for the relief given by the operation.

M. Velpeau:—I must confess that the examination of stammering persons, as usually practised by the Academy, offers no serious guarantee for truth. We all know that the infirmity varies a great deal from a number of influences. It would be more rational, in my opinion, to submit all the patients to an attentive examination by a committee appointed for the purpose.

M Dubois concurred in the sentiments now expressed by M. Velpeau. He did not think it consistent with the dignity of the Academy to see patients mounted up upon the desk; as if it was a shew-place, and made to repeat the same words and answer the same questions, like parrots.

Here M. Amussat rose to call the member to order for the offensive expressions he was using. M. Dubois however persisted, and expressed his surprise at the reclamation of the learned gentleman.

At this moment, M. Gerdy called upon the president not to open a discussion, except when the patients have been sufficiently examined, and have left the hall. Some members having called upon M. Amussat to explain the processes which he followed in performing his operations, the president, M. Roux, availed himself of the opportunity to state, that a few days ago he divided the *genio-glossi* muscles in a stammerer. The patient, immediately after the operation, pronounced some words with rather greater facility; but he has since refused to speak at all, and, as considerable inflammation came on in the mouth, a number of leeches have been applied.

M. Amussat here was proceeding to explain his operation, when M. Gerdy again rose and said that he had possession of the chair: he declared that a most rigid examination of the alleged cures should be instituted by a special committee. The operation, he went on to say, exhibits two sides, one moral, the other scientific; hitherto however he could only see a commercial (industriel) side in any of them. This word excited among the learned academicians a storm which it defies all language to describe. Amid the most dreadful shoutings, violent apostrophes, and continual interruptions, M. Gerdy insisted upon reading from a provincial journal an article in which the operations of M. Amussat and of M. Boyer are described in the most pompous terms. During the reading of this paper, M. Amussat, the prey of the most lively agitation, was continually repeating, in the most solemn terms, his entire ignorance of the article in question. All the academicians rushed into the *hemicycle*, forming a ring round M. Gerdy; some calling upon him to continue, others to stop, while many of the members at the same time were shouting to the president to dissolve the meeting. After having made some ineffectual attempts to restore order, M. Roux declared that the meeting was dissolved.

"It is utterly impossible," says the reporter, "to give any just idea of the extreme confusion at the close of this meeting of *savans*;* it recalled to our minds the recollection of those stormy political assemblies, which are faithfully recorded in the past history of our country."

(So much for the deliberations of the Royal Academy of Medicine in the metropolis of the most polite people of the world!)

M. Dubois on the Signs of Pregnancy.

In treating of the signs of pregnancy furnished by the state of the mammæ, M. Dubois says—

"In a pregnant woman, the puffy swelling of the areola is a sign to which Professor Hamilton of Edinburgh attaches the greatest importance, because it is, according to his experience, never to be observed in those who have not been exposed to conception. We observe indeed occasionally in maiden women some unusual appearances in the areola, but never the genuine *boursoufflement* The accuracy of this opinion has been questioned by several physicians; but I must acknowledge that I am quite inclined to agree with Dr. Hamilton. Unfortunately the character of the areola to which we allude is far from being uniform or constant; but, when it is present, we regard it as one of the most trustworthy of the signs of pregnancy."

He afterwards remarks:—"The areola in a pregnant woman assumes a darker colour; it exhibits minute papillary eminences, which existed indeed beforehand, but which become more distinct and elevated; and in some cases it is raised up, prominent, and as it were œdematous. Around this first areola there is usually noticed a second one, which exhibits a spotted appearance. The veins of the mamma also are much larger than before. The elevation of the areola, now described, is unfortunately rather a rare occurrence: for it is a very important one, and almost infallibly indicates the condition of pregnancy."

The Discolouration of the Areola.—There is much discrepany of opinion among accoucheurs as to the value of this sign; some regarding it as very characteristic, while others attach but little importance to it. The anecdote of Dr. William Hunter on one occasion pronouncing, from the presence of this sign in a female subject brought for dissection, that she was pregnant, is well known. M. Dubois acknowledges that the sign is a valuable one; for it is certainly present in a very great number of pregnant women; but he reminds his readers that its value is considerably diminished for the following reasons:—very frequently it is not observed at all, or it is very indistinct, in women of a fair complexion; the dark colour almost always remains more or less decided, when once a woman has conceived; and, thirdly, in certain uterine diseases the areola is apt to be discoloured, although the woman has never been exposed to the chance of impregnation. He adds: "Each of the signs now mentioned—the discolouration of the areola, the secretion of milk, the prominence of the papillæ, and the puffy elevation of the areola—taken *separately*, cannot be well trusted to in any case; except perhaps the last, and this unfortunately is only of occasional occurrence. But when they are co-existent in the same case, they will generally be found sufficient to determine the presence of pregnancy."

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* While reading this, we were involuntarily reminded of the witty anecdote related by Las Casas in his memoirs of Napoleon. During the French campaign in Egypt, the *savans* and draughtsmen who accompanied the army were huddled with the baggage into the middle of the squares, the moment that the enemy appeared. No sooner were the Mameluke horse descried, than the word was given, "form square; artillery to the angles; asses and *savans* to the centre"—a command which afforded no small merriment to the soldiers, and made them call the asses *demi-savans.—Rev.*

M. Dubois makes repeated allusion to the recent researches of Dr. Montgomery of Dublin; but, while commending them for their accuracy in the main, he is inclined to believe that he attaches rather too great importance to some of the signs furnished by the state of the mammæ. He professes his inability to give any opinion as to the value of the sign that has been drawn from a change in the colour of the lining membrane of the vagina. "It has been alleged that when impregnation takes place, the surface of the vagina assumes a peculiar purplish or violet-blue colour, which seems to be the result of sanguineous congestion in the part. This discolouration is said to commence in the second month of pregnancy. It is considered by some writers as a certain sign of pregnancy, provided no hæmorrhoidal disease be present at the time; for this also is said to induce a change in the colour of the vaginal mucous membrane. M. Jacquemin, physician of La Force prison, in which there is always a great number of prostitutes, has stated in a work upon this subject, that he has very frequently observed the discolouration, and that he has always found it dependent upon pregnancy. His observations have been made on between four and five thousand women: and in no one instance has he been mistaken in his diagnosis, when this sign was present. As a matter of course it requires the speculum to be used to detect it properly. M. Dubois confesses that he can say nothing in its favour from the results of his own experience. It is to be remembered that it is admitted by M. Jacquemin himself, as well as by others who have faith in it, that the vaginal membrane may acquire a darker colour than usual from other causes besides pregnancy. If a woman be examined with a speculum immediately after the cessation of the catamenia, the cervix uteri and the vagina will be observed to be more or less congested. It is well known that, during the season of rutting in animals, there is always a turgescence of the generative organs. Whatever, in short, tends to cause a more than usual flow of blood to these parts will probably induce some change in the colour of the lining membrane of the vagina."

The attention of obstetrical practitioners has of late years been directed by several writers to the state of the urine during pregnancy. Dr. Golding Bird describes the peculiarities which the secretion exhibits in the following terms. If put aside in a glass vessel for two days, it was observed to become much troubled; innumerable globules, having a greasy or fatty aspect, appeared on its surface: after another day or two, it became completely covered with a pellicle, resembling that which forms on mutton broth when cooling; and, on the sixth day, this crust broke up and fell to the bottom. These appearances were observed in nearly thirty cases. Submitted to the microscope, the pellicle exhibited beautiful triangular prisms of triple phosphate of magnesia, contained in a mass of granular matter, and here and there patches of tolerably regular globules. Dr. Bird has observed the phenomena, now described, in the urine as early as the second month of pregnancy; and he assures us that he has derived great assistance in the diagnosis of pregnancy from attending to them. It will be very interesting if his observations are confirmed by the researches of others.—*Gazette des Hôpitaux.*

CLINICAL REVIEW.

PENNSYLVANIA HOSPITAL.

STATISTICS OF FRACTURES AND DISLOCATIONS TREATED DURING THE TEN YEARS, FROM 1830 TO 1839, INCLUSIVE. By G. W. NORRIS, M.D.*

DR. NORRIS thinks that such a statistical account as this may illustrate beneficially the treatment of fractures and dislocations. Dr. N. first describes the methods adopted in the hospital.

1. *Fracture of the Femur.*

In the treatment of most fractures of the thigh, the straight position is preferred, and the apparatus of Desault modified, is that mostly employed. The improvement consists in the greater length of the outer splint, and the attachment to its lower end of a small block, over a notch in which the extending band passes, in order that the extension be made in a line with the axis of the limb. If the limb can be at once brought down to its natural length, it in all cases should be done on the first application of the apparatus; but when there is so much muscular contraction as to render this very painful, the limb need not be drawn to its full length at first. In these cases it should be extended as much as possible, and at the second visit of the surgeon, should be seized at the ankle, and slowly pulled downwards, while an assistant thightens and makes fast the extending band. This course is to be repeated until the fragments are perfectly reduced, which may in most cases be readily done at the end of twelve or eighteen hours. No great advantage is believed to be gained by the employment of short splints, or bandages of any sort, applied immediately to the thigh, and their use is dispensed with, as they prevent the surgeon from accurately examining the state of the fracture, and require that the limb should be disturbed in order to re-apply them. A long narrow bag, stuffed pretty firmly with cotton, and covered with buckskin, is used for the counter-extending band; and a double buckskin gaiter, with a thin layer of carded cotton laid over it, or a buckskin band lined with linen, is made use of for the extension. Extension violent enough to cause pain should never be made use of; it ought always to be moderate, steady, and permanent. If constant pain is complained of at any point on which the dressings press, it should be immediately examined and re-adjusted. The restlessness of patients causes any apparatus to be easily displaced, and it is therefore necessary to smooth, tighten, and carefully re-examine it daily. Excoriation of the heel is most frequently produced by want of care in not having the extending band smoothly applied to the part, or by tightening it in too great a degree without having previously drawn down the limb with the hand. Sometimes, however, excoriation is caused by the weight of the foot alone; and in these cases the application of a piece of kid, spread with soap cerate, will mostly prevent it.

We think that sufficient advantage is not usually taken of the buffalo's skin plaster as a means of preventing the bad effects of pressure. Laid on where the bandages are likely to be stringent, it answers admirably in defending the integument. The instep, the heel, and the perineum, should be covered with it.

We fancy that the addition of a good boot or foot-piece to the bottom of the long splint is useful. A common block or cross-bar does not act as uniformly on the foot. Carefully managed, the long splint is an excellent instrument.—But we like the short splints with it.

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* Amer. Journal of Med. Sciences, April, 1841.

Dr. Norris continues :—In fractures of the femur within the capsular ligament, the application of any splints in the treatment is discarded—the limbs being merely supported by pillows in the extended position. No case has been observed in the period comprised in this report, in which the toes were thrown inwards. Several instances of fractures about the hip joint, in persons of middle age, have come under notice, in which, even with the most acurate examination and measurement, it was impossible to detect any crepitus or shortening of the limb till after the lapse of one or more days.

2. *Fractures of the Leg.*

In the treatment of fractures of the leg, as in those of the thigh, splints or bandages are rarely applied to the limb. The leg is placed in a fracture-box, upon a well-stuffed pillow, previously covered by a thin oil cloth, in such a manner as to bring the sole of the foot in contact with the foot board. The fractured bones are then accurately adjusted, and the sides of the box are tied together moderately tight. The foot is securely fastened to the foot-board by means of a strip of bandage, in order to prevent its falling to either side, and the presure of the pillow is, in the vast majority of cases, quite sufficent to retain the fragments in their natural position. The foot-board of the box is set into its bottom nearly straight, and is made to project beyond the foot, in order to prevent the toes from falling downwards, and thus cause a projection forwards of the upper end of the lower fragment.

We must confess that, in many cases, we prefer the common splints, or an Assalini's box, to the junk. The latter is hot, and, in compound fractures more particularly inconvenient.

To prevent inflammation, cooling lotions are applied to the limb, and every attention is paid to position. In order to obviate deformity in these fractures when they occur at the lower part of the leg, it is highly important to keep the foot well forwards and this is best done by placing under the heel some layers of carded cotton.

In very oblique fractures of the leg, where the pressure made by the pillow is not sufficient to prevent the recurrence of deformity after its reduction, permanent extension is kept up by means of Dessault's splints, as in fractures of the thigh.

In fractures of the lower end of the fibula, where the foot is much drawn outwards, the apparatus of Dupuytren, consisting of a conical pad to make pressure over the internal malleolus, and a single splint applied to the inside of the limb, from the upper extremity of the leg to some distance beyond the foot, is employed ; but where, as is most generally the case, the tendency to a recurrence of the deformity is not in a great degree, the apparatus commonly made use of for other fractures of the leg, consisting of the fracture-box and pillow, so placed as to exert rather more pressure than usual upon the outer ankle, is resorted to. These fractures are sometimes accompanied by compound luxation of the lower end of the tibia.

In compound fractures followed by suppuration, where the discharge of pus becomes profuse, or where hæmorrhage from the veins or small arteries, either primary or secondary, is troublesome, or is to be looked for, an excellent mode of treatment was introduced into the house many years since by Dr. J. R. Barton. It consists in fixing the limb in a good position in a fracture-box on a bed of dry bran, and surrounding and enveloping it with the same material. This application is soft and pleasant to the patient, makes moderate and very equable pressure, which is increasd in proportion to the increase of the hæmorrhage by the bran becoming moistened and expanded, and is unirritating to the wound, at the same time that it may be removed with the aid of a spatula or syringe, and re-applied without causing pain or disturbing in any degree the limb. No mode of dressing that I have ever made use of can be compared to that with bran, in injuries of this kind attended with profuse suppuration, during our extreme hot weather. At this season, the fetor arising from the discharge is often so powerful as to taint a whole ward, and in such cases animalculæ are generated in the course of a few hours, if the wound be in the slighest degree exposed. Clean bran, by covering completely and closely every part of the injured surface, hinders the generation of these animals, and at the same time prevents, in a great measure, the odour that would otherwise arise, by rapidly and effectually absorbing the discharge.

3. *Apparatus for Fractures of the Clavicle.*

The apparatus used at the hospital consists in a pad for the axilla, a ring formed of some soft substance, as a roll of muslin or of buckskin, for th shoulder of the sound side, and a sling for the elbow made of linen, extending half way up the arm, and two-thirds of the way down the fore-arm. To the elbow-piece is attached three strong tapes—one to its upper and posterior part, and one to each anterior extremity. The following is the mode of applying the apparatus; a proper pad being selected and fixed in the axilla, by means of tapes fastened to its upper ends, and passing over to the sound shoulder, the ring or collar is carried up and held on the shoulder of the sound side; the sling is then fitted to the elbow, and after the fracture is reduced by drawing the arm downwards, and pushing the elbow upwards across the chest, the tape on its posterior part is carried over the back and firmly tied to the collar on the opposite side. This done, the surgeon comes round in front of the patient, and makes fast to the collar the tapes attached to the anterior extremity of the elbow-piece. These are to be drawn tight enough to throw the shoulder sufficiently outwards and upwards to remove all deformity. The hand is then supported in a sling, or by a strip of bandage fastened to the collar. The whole apparatus is to be re-examined and tightened daily. The chief indications in the treatment of fracture of the clavicle are perfectly fulfilled by the use of this apparatus; the pad in the axilla throws the shoulder outwards, at the same time that the drawing up of the elbow by the linen bag throws it upwards and backwards. Besides this it is simple, requires no bandaging, and leaves the part injured at all times open to inspection. The apparatus, too, can readily be applied in females, in whom it is all important to obviate deformity. The apparatus was contrived and introduced into the practice of the hospital in 1828, by Dr. Fox, then house surgeon, since which time it has been constantly employed.

4. *Fracture of the Humerus.*

In fractures situated at the middle of the bone, three or four pasteboard splints are commonly made use of—the outer extending from the top of the shoulder to the external condyle, the inner reaching from the axilla to just above the internal condyle, and the anterior one sufficiently long to reach to the bend of the arm. The roller is applied, as in all other cases, from the fingers up, and the fracture being reduced, and the splints fixed as mentioned, is returned and fastened over them. The arm may then be bound to the body by a broad bandage, or can be left free, supported by a sling. In patients who are very restless, the roller soon becomes loose about the fore-arm and elbow, and necessitates a frequent re-application of it. To prevent, in a measure, this almost daily renewal, the use of an angular board splint well padded, and extending from the axilla to the hand on the inside of the arm, is sometimes substituted; one or more short splints being at the sameme applied above the elbow. The fragments by this means are held perfectly in place, and the angular splint, by holding the fore-arm at rest, keeps the bandage well and evenly applied for a much longer period than is otherwise possible. During the cure, the angle of the splint should be occasionally changed, in order to prevent any degree of stiffness at the elbow. This mode of dressing is applicable to fractures below the insertion of the deltoid only; for fractures situated high up in the bone it would be manifestly improper.

5. *Fractures of the Elbow*

One of the most common of these, after fractures of the inner condyle, is that in which two fractures and three fragments are present, the humerus being broken transversely just above the condyles, and these last separated longitudinally. All fractures about this part are very troublesome and serious accidents, and to treat them well, requires extraordinary care and attention, whatever method of treatment may be made choice of. Two rectangular splints applied to the inner and outer sides of the arm, and extending from its upper part to the ends of the fingers, are frequently employed with us. When these are used, the angles of the splints should be frequently changed to prevent deformity and stiffness of the joint—those first applied being removed after ten or tw lve days, and replaced by others of an obtuse angle. Another method of treatment, which is sometimes pursued at our hospital in fractures about this joint with very satisfactory results, consists in the application of a single board splint applied to the front of the arm. This should be of the width and shape of the limb, well padded, and extending from the upper part of the arm to the ends of the fingers. At first a right angled splint may be used, but at every dressing, (and after the first few days they should be frequent,) it is to be changed for a more obtuse angled one, until finally the arm can be brought perfectly straight. The obtuse angled splints are then recommenced with, and gradually replaced by others less obtuse, until the limb is again brought to a right angle. This plan carefully pursued, will generally prevent deformity, at the same time that it is of more easy application, and more effectually hinders the occurrence of anchylosis than the common mode of dressing.

6. *Fractures of the Fore-arm.*

These accidents are treated by means of a roller and two splints, applied in the usual manner. Fractures of the lower end of the radius, which, it may be remarked, are very frequently mistaken for simple sprains, are treated also with two splints; the inside one extending from the upper part of the arm beyond the ends of the fingers, while that on the outside passes below the knuckles. In these, as in all other cases in which a simple fracture communicates with, or is in the immediate neighbourhood of the wrist or elbow joints, the dressings should be removed at the end of ten or twelve days, and after the joint is gently exercised, are to be re-applied. This should be repeated, at farthest, every second day. The same rule should be observed in all cases in which the fore-arm is confined in two long splints, as otherwise great rigidity of the wrist-joint occurs, which is annoying to the patient, and requires a very long time for its disappearance.

7. *Fractures of the Cranium.*

In cases of simple fractures of the cranium with depression of bone, but unaccompanied with symptoms of compressed brain, the trephine has not been resorted to, while, in instances of compound fracture, attended with depressed fragments, even where no symptoms of compression existed, it has been the general practice to remove the portions driven in.

8. *Number of Fractures and their Relative Frequency for twelve years.*

	Number.	Cured.	Relieved or by request.	Died.	Amputations.
Fractured thigh	118	92	9	17	2
Fractured leg	293	241	11	41	14
Fractured cranium	46	14	2	30	
Fractured patella	16	14	2		
Fractured spine	8		1	7	
Fractured sternum	5	4		1	
Fractured clavicle	84	75	7	2	
Fractured arm	250	216	22	12	9
Fractured fingers	9	8	1		
Fractured scapula	10	8	1	1	
Fractured elbow	2	1		1	
Fractured nose	3	3			
Fractured jaw	19	12	1	6	
Fractured pelvis	5	5			
Fractured foot	12	10	2		4
Fractured ribs	46	39	2	5	
Fracture	2	2			
Compound fractured pelvis	1			1	
Compound fractured knee	2	1		1	2
Compound fractured thigh	15	4	1	10	
	946	749	62	135	31
Un-united fractures	13	9	2	2	
Total,	959	758	64	137	31

No instance of artificial joint followed the treatment for fracture during the ten years included in the report. All the cases observed there, during that period, having been sent to the institution from distant parts

9. *Dislocations treated during* 10 *years.*

	Number.	Cured.	Relieved or by request.	Died.		Number.	Cured.	Relieved or by request.	Died.
Dislocated shoulder	49	45	3	1	Dislocated finger	1	1		
Dislocated hip	17	13	3	1	Dislocated great toe	1	1		
Dislocated astralagus	1			1	Compound dislocated thumb	2	1	1	
Dislocated cervical vertebræ	1			1	Dislocation and laceration	1			1
Dislocated jaw	2	2			Dislocation and fracture	1	1		
Dislocated ankle	2	1		1	Dislocation	1		1	
Dislocated elbow	7	7							
Dislocated wrist	4	4							
Dislocated clavicle	3	3							
Dislocated radius	1	1			Total,	94	80	8	6

With the exception of a few of the luxations of the shoulder and hip, the cases included in the following table were of recent occurrence, and in all of these cases the bones were reduced without accident of any sort. Two out of the three luxated shoulders marked as discharged by request were incurable.

One of these was a case of dislocation of the humerus forwards of sixty-two days' standing. The pullies were used ineffectually. The other was a forward luxation of three month's standing. No force could reduce it.

Among the cases of dislocation at the shoulder cured, are those which had been out twenty-six, forty-five, fifty-three, thirty-one, ten, twenty-one, and thirty-one days, respectively.

The only instance of luxated hip of long-standing, in which attempts at reduction were deemed proper, was that of a lad, ætat. 12. The signs of dislocation, upwards and backwards on the ilium, of the right femur, were well marked, with shortening of the limb to the extent of two inches. The accident had happened fourteen weeks previously, and its nature had been mistaken by the person called to visit him. The injury had been produced by a fall from a height, and the head of the bone was to a certain extent moveable by rotating the limb. After the application of the pullies he was bled largely from the arm, and took a solution of tartar emetic, by which means his system became completely relaxed. Pretty strong extension was then made from above the knee, and after this had been kept up near half an hour, the head of the bone was drawn outwards by means of a towel, and the knee rotated. During these efforts a sudden crack was distinctly heard. The apparatus was immediately removed. The boy was now exceedingly prostrate. Much more motion than before the trials existed at the hip; the toes could be turned much further outwards, and the knees could be to a certain extent separated. The boy did not complain of pain on rotation, and took a few steps upon the limb some time after being released. It was at first feared that a fracture at the neck of the bone had been produced, but repeated close subsequent examinations proved this not to be the case. He left the institution twenty-two days after the trial, with more motion in the limb than he had previously had.

There was a case of dislocation of the cervical vertebræ, unattended with fracture. The yellow ligaments and the ligamentous fibres, holding together the oblique processes, were ruptured, and the fifth cervical vertebra was thrown forwards upon the sixth. Examined in front, the vertebral ligaments were found also to be ruptured, and the inter-vertebral substance torn up, so that the body of the fifth was completely separated from, and projected over the sixth. Accurate examination, after the removal of the upper part of the spinal column, proved that no fracture existed, and that the injury consisted in a simple displacement of both body and processes of the vertebræ.

SHATTUCK ON THE VITAL STATISTICS OF BOSTON.*

Our American contemporary contains an interesting paper on this subject. We shall allude to some of the principal points.

The system of registration of births, deaths, and marriages, would seem to be very defective in America. But an amendment is purposed.

The population of Boston was estimated at the beginning of the last century to have been about 6,750, and the annual deaths to be 230—one in 29.3, or 3.4 per cent. The deaths from 1705 to 1714, inclusive, were 3,341, and from 1715 to 1724, 4,350, giving an annual average of about 1 in 24, or 4.09 per cent.

The lowest mortality was in 1755 to 1764, being 514—one in 34, or 3.24 per cent. of the population, annually; the highest was in 1745 to 1754, being 671—one in 23, or 4.26 per cent. This is just double the mortality, which prevailed in 1826 to 1835, being then only 2.13 per cent. The lowest mortality in any single year was 407, or 1 in 38, in 1763; the highest 909, or 1 in 14, in 1730, and 1009, or 1 in 15 in 1752.

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* Amer. Journ. of Med. Sciences, April 1841.

The mortality of the black, was much greater than that of the white population. In the first period mentioned in the table, it was as low as at any time. One in 18, or 5.64 per cent. of the black population, died, showing a difference of 2.56 per cent as compared with the mortality of the whites. The highest mortality among the blacks was in 1725 to 1734, being 1 in 12. or 8.64 per cent. These are very striking facts, but are accounted for, in some measure, by the prevalence of the small-pox and other epidemics, which often visited the town at that time, and which seem to have been peculiarly fatal to the black population. In fact, the liability to death by disease among the blacks, was about 50 per cent. greater than among the whites, when taken in the natural way; and more than three times as great, when taken by inoculation.

It appears from a table that the population of Boston was, in 1790—18,038, and in 1837, 80,325. The greatest increase of the population was from 1820 to 1825, being 14.983, equal to the annual increase of 6.92 per cent., or 1 in 14. The least increase was in 1825 to 1830, being only 1.06 per cent. annually. The whole increase from 1790 to 1837, was 445.3 per cent., or doubling the first mentioned number about 4½ times. There were 201 square yards to each inhabitant in 1790, and 49 in 1837, being an increase density of 5 to 1.

The proportion of white to coloured population has been about the same at each of the enumerations, excepting the last two, when the whites had increased, as will appear from the following statement:

Proportion.	In 1790.	In 1800.	In 1810.	In 1820,	In 1825.	In 1830.
Of whites,	95.78	95,30	95.60	95.98	96.71	96.95
Of coloured,	4.22	4.70	4.40	4.02	3.29	3.05
	100.00	100.00	100.00	100.00	100.00	100,00

This shows that in 1790, of the whole population. 95.78 per cent. where white and the remainder 4.22, were coloured. In 1830, the proportion of whites had, increased, and the coloured decreased, 1.17 per cent.

From a mortality table, it appears that the least in one year was in 1827, being 939, one in 63, or 1.57 per cent., and the greatest in 1821, being 1,321, one in 35, or 2.85 per cent. The average annual deaths were 813, from 1811 to 1830—one in 47, or 2 09 per cent., 1147 from 1821 to 1830—one in 49, or 2 05 per cent., and 1,552 from 1831 to 1839—one in 46, or 2.14 per cent. showing a small increase in the force of mortality.

The value of life would seem to have materially increased in Boston. Nearly 100 years ago there was 1 death to about 30 or 35, or 3 per cent. of the population. Now according to table IV. there is 1 in about 45, or 2.10 per cent. of the population. This shows a very great improvement in the relative value of life.

Mr. Shattuck gives a table showing the population of Boston for 1830, the deaths for 10 years, 1826 to 1835, and the proportion of the annual deaths to 100 constantly living in Boston and Carlisle. From this table it appears that the proportion of deaths to the living is greater in Carlisle that in Boston under the age of 20, and between the ages of 80 and 90. At the other ages it is greater in Boston. Between the ages of 50 and 60, and 90 and 100, there is the greatest difference, being in the former 1.23 and in the latter 2.32. The mean of all ages is 2.13 per cent. in Boston and 2.50 per cent. in Carlisle, showing a difference of .37 in favour of the former. This presents the law of mortality in Boston, as accurately as it could be done from any data at present existing. It is, however, difficult if not impossible, to determine it with perfect precision by any general statement concerning a population so changeable as that of Boston.

Mr. Sahttuck compares the relative mortality of the different periods, 1811 to 1820, 1821 to 1830, and 1831 to 1839. This comparison presents some very striking facts, and shows that, although the average value of life is greater now than during the last century, it is not so great as it was twenty years ago; that it was at its maximum in 1811 to 1820, and that it has somewhat decreased. It appears that 33.64 per cent. of the deaths in 1811 to 1820 were under 5 years of age, 37.04 per cent. in 1821 to 1830, and that 43,09 per cent. in 1831 to 1839, showing a gradual increase of the relative mortality under that age, and between the first and the last given period, a difference of 9.45 per cent. or a proportional increase of mortality of 28 per cent.!

It is a melancholy fact, and one which should arrest the attention of all, that 43 per cent. or nearly half of all the deaths which have taken place in Boston during the last nine years, are of persons under 5 year of age; and the proportional mortality of this age has been increasing.

The causes of this increasing and alarming mortality should be investigated, and, if possible, removed. More luxury and effeminacy in both sexes prevail now than formerly; and this may have had some inflence in producing constitutional debility, and the consequent feeble health of children. The nursing and feeding of children with improper food is another cause. The influence of bad air in confined, badly located, and filthy houses, is another and perhaps the greatest. Epidemic diseases which are particularly prevalent among children have increased. It will hereafter be shown that scarlet fever has prevailed very much the last nine years, and has increased the mortality. In the period 1811 to 1820, this disease produced 13 per 1000 of the whole deaths. In 1831 to 1838, it produced 489. Other infantile diseases have also increased. These considerations would, perhaps, sufficiently account for the increased mortality under 5 years of age.

Mortality of Different Sexes.—From tables, it appears that there were 180 more female than male deaths in 1811 to 1820; 424 in 1821 to 1830, and 341 in 1831 to 1839. There were four years in the first period, and three in the last only, when there were more male than female deaths. The proportion of the different sexes will appear from the following statement.

		Deaths.	Average.	Proportion.		
1811 to 1820	Males	4156	415	51.11	as 100	or 104.59
	Females	3976	397	48 89	to 95.66	100.
	Total,	8132	813	100.00		
1821 to 1830	Males	5947	594	51.85	as 100	or 107.67
	Females	5523	553	48.15	to 92.87	100
	Total,	11470	1147	100.00		
1831 to 1839	Males	7457	828	51.17	as 100	or 104.79
	Females	7116	790	48.83	to 95.42	100
	Total,	14573	1618	100.00		

The proportion of male and female deaths to the population in the years when the census was taken, was as follows.—

	One in		Excess.	Proportion per cent.		Excess.
1820	Males 41	Females 44	3	Males 2.41	Females 2.27	14
1825	„ 41	„ 43	2	„ 2.32	„ 2.27	5
1830	„ 54	„ 65	11	„ 1.83	„ 1.52	31
1835	„ 39	„ 48	9	„ 2.54	„ 2.07	47

This statement shows that the agents of death are uniformly more active with male than female life.

From another table, it appears that at the ages under 10 years, and between 30 and 60, more males than females die, the proportion rising in 40 to 50, as 56.99 to 43.01 per cent At the other periods specified there are less male than female deaths; the difference after the age of 60 continually increasing, until 90 to 100, when it was as 27.18 to 72.82 per cent. But it is certain that there were a greater number of males than females at any age among the living population. A comparison of these with the deaths will show that at certain ages a greater proportional mortality prevails among males, and at other ages among females.

Mortality of the different Seasons of the Year.—It appears that the months of August, September, and October, have the highest mortality. December is number 4 in each period; November 5 in the last, and 6 in the others. June has uniformly the least mortality. If the proportions are arranged according to the seasons of the year, they will be as follows:—

	1811-1820.	1821-1830.	1831 1839.
Winter,	2.801	2.775	3.000
Spring,	2.842	2.825	2.622
Summer,	2.807	2.996	2.800
Autumn,	3.550	4.434	4.578
	12,000	12,000	12,000

Mr. Shattuck has endeavoured to arrange the facts for one period, 1821-1830, to ascertain what influence the seasons have upon the mortality of different ages. He has given the whole deaths during the time, the mean or average of each month at each age, and the difference from this mean, placing the sign minus, when the mortality of the month at any age was less, and plus when it was greater, than this mean. The table itself is too long for us, but the following abstract will be intelligible.

	Under 20 years.	20 to 60.	60 and upwards.
Spring,	— 205 50	+ 43.75	— 3.
Summer,	+ 56.50	+ 62.75	— 49
Autumn,	+ 366.50	+ 70.75	+ 10
Winter,	— 222.40	— 35.75	+ 52

From this statement it appears that the seasons have the greatest influence on the mortality of persons under the age of 20 and over that of 60—the summer and autumn being most fatal with the former, and winter with the latter. This is the only general law we can deduce from the tables.

The Still-born.—The proportion of the still-born to the whole burials was 1.82 per cent. in the second, and .65 per cent. in the third period, more than in the first. By table VIII. it appears that the month producing the highest proportion was August, and that March was the next highest. There appears, however, to be less variation, in regard to the seasons, in these than in the other deaths.

Diseases.—The mortality tables of Boston would appear to be defective to a very great degree, in regard to the particular cause of death. Mr Shattuck makes the following sensible remarks:—

"It has been considered sufficient by many writers on this subject to prepare the tables, so as to exhibit the number of the deaths by each disease for certain definite periods of time given. But this information appears to fall short of the result which ought to be presented in such tables. To render them useful, a comparison should be made between the number of deaths by each disease, and the whole number of deaths in a certain given period, and this result should be again compared with a similar result concerning other periods. In this way the prevalence of any particular disease compared with that of other diseases at the same period, and with the same diseases at different periods, may be at once seen, and a judgment formed from the per centage what proportion of deaths that particular disease occasions, and whether it be on the increase or decrease. The sex, age, and place of nativity of the diseased, and the season of the year in which the deaths occurred, are not stated in connection with the diseases in our printed tables, but they should be. The fatality of disease depends much on the age of the patients, and it is not the same in childhood, manhood, and old age, nor with the different sexes, and in the different months of the year. It is very important to know all such facts in relation to each disease, and the danger that man has to encounter in all ages, and under all circumstances. It would also be important, if practicable, to know the number of deaths by each disease in proportion to the population, distinguishing them according to their ages. When facts like these are known they will lead to inquiries into the causes, which have produced an increase or diminution of disease, under different circumstances, and lead to the adoption of the proper remedies."

Mr. Shattuck divides the years from 1811 to 1839 inclusive, into three periods, the first from 1811 to 1820, the second from 1820 to 1830, and the third from 1830 to 1839 inclusive.

Fevers.—The deaths by fevers of all kinds were 749, 604, and 721, or 88.4, 52.7, and 49.5 per 1000 of the whole deaths in the respective periods, showing a decrease of 35.7 in the second, and 3.2 in the third. By looking at the different fevers in the tables it will be perceived, that typhus has produced the greatest number of deaths, but still it has very much decreased; being 623, 458, and 611, or, 73.5, 39 9 and 41.9 per 1000, showing the last eight years a small increase on the previous 10, but not more than half the proportion of the period 1811 to 1820. The greatest number in one year was 119, in 1818. Ten cases of yellow fever occurred in 1816. There is evidently an error in the numerical statement relating to the third period.

Eruptive Fevers.—The diseases of this class occur very irregularly. They have, however, increased. There occurred 64, 402, and 1402, or 7.5, 35.1, and 96.2 per 1000 in the respective periods, the last period showing more than 13 times the mortality of the first. Each of the diseases, excepting *thrush*, shows an increased mortality. *Erysipelas* has increased from 1, in the first, to 65 in the last period. *Measles* was very fatal in 1821, 1825, 1829, 1832, and particularly in 1835, when 188 died of this disease: 28, 332, and 340, or 3.3, 28.9, and 23.1 per 1000 of the whole deaths occurred from this disease in the respective periods. Cases of scarlatina have increased since 1821 to 1830, from 13 to 489! It has become one of the most fatal of the eruptive fevers. The suddenness of its attack, the irregular mode of its operation, and its generally fatal termination, has rendered it one of the diseases most to be dreaded. The greatest number in one year was in 1839, when 222 died. The next greatest was 200 in 1832. To the prevalence of this disease may be attributed, in some measure, the increased mortality of children under five years of age. The recorded cases of *Small-pox* have been principally at the quarantine establishment at Rainsford Island. It never prevailed in the city, as an epidemic, during the period under review, until the autumn of 1839. It then spread generally through the city, and produced 60 deaths before the close of the year.

A table is given of the mortality in the different periods from cholera, croup, dysentery, and hooping-cough. That of all has been upon the increase.

	1811—1820.		1821—1830		1831—1839.	
Diseases.	Number.	Ratio per 1000.	Number.	Ratio per 1000.	Number.	Ratio per 1000
Cholera,	122	14.4	149	12.9	407	27.9
Croup,	43	5.	245	21.3	376	25.9
Dysentery,	115	13.5	429	37·4	372	25.5
Hooping Cough.	78	9.2	184	16.0	256	17.5

The total of this class of diseases was 380, 1031, and 1499, or 44.9 89.9, and 102.0 per 1000 in the respective periods.

Diseases of the Nervous System.—It appears that the whole of the diseases of this class have been 562,980, and 1515, or 66.4 85.4, and 104. per 1000 in the different periods, showing a slight increase. The entries under each class, excepting epilepsy, insanity, and tetanus, also show an increase. *Insanity* has not appeared to increase, though some allowance should be made for the patients afflicted with this disease, who go to the Lunatic Asylums at Worcester and Charlestown, and sometimes die there. If these were considered in our reports they would probably show a dfferent result, and a slight increase of the disease. The following statement shows the proportional prevalence of the three principal diseases of this class.

	1811—1820.		1821—1830.		1831—1839.	
Diseases.	Number	Ratio per 1000	Number	Ratio per 1000	Number	Ratio per 1000
Apoplexy,	109	12.8	107	9.3	162	11.1
Convulsions,	229	27.	309	26.9	419	28.7
Hydrocephalus,	86	10.1	270	23.6	498	34.1

Diseases of the Organs of Respiration.—In the different periods under consideration, 2460, 2802, and 3214 deaths, or 290.5, 244.8, and 220.5 per 1000, were caused by this class of diseases. This indicates a decrease of 70 per 1000 from the first to the last period. The following table will show the comparative prevalence of the principal diseases:

	1811—1820.		1821—1830.		1831—1839.	
	Number cases	Ratio per 1000	Number cases	Ratio per 1000	Number cases	Ratio per 1001
Pleurisy,	35	4.1	40	3.4	83	5.7
Phthisis,	1891	223.3	2054	179.	2066	141.7
Pneumonia,	436	51.4	580	50.5	937	64.2

The leading disease of this class, and indeed of all classes, is phthis is, or consumption. From these tables it appears to have decreased over one-third from the first to the last period. Entire reliance, however, should not be placed on this statement. There is so much indifiniteness in the application of the term *consumption*, as well as many other terms in our bills, that it should be regarded only as an approximation to the truth. The more accurate diagnosis recently observed has probably given a different classification to many cases, from that assigned to them in the first period. Consumption is, however, a most formidable disease, not in Boston peculiarly, but in all cities and country towns.—Sufficient facts are known to show, that from *one-fourth* to *one-seventh* of all the deaths in the Northern and Middle states, and perhaps throughout the whole Union, and the civilized world, are caused by consumption. Mr. Shattuck justly observes, that the only chance of materially diminishing the fatality of this malady is by making the people acquainted with the causes of it, and instructing them in measures of prevention.

Diseases of the Organs of Circulation.—These diseases have increased, being 22, 81, and 191, or 2.5, 7. and 13.1 per 1000. Of the whole of this class

24, 90, and 200, or 2.9, 7.9, and 13.7 per 1000 occurred in the different periods.

Diseases of the Digestive Organs.—The following statement will show the comparative prevalence of some of the principal diseases of this class :

	1811—1820.		1821—1830.		1831—1839.	
	Number cases	Ratio per 1000	Number cases	Ratio per 1000	Number cases	Ratio per 1000
Enteritis,	6	.7	162	14.1	320	21.9
Teething,	39	4 6	83	7.2	247	16.9
Worms,	21	2.5	26	2.2	51	3.5

Most of the other diseases specified have decreased, excepting those of the liver, and the other organs mentioned under the general head, and included under *Disease.* These have greatly increased. The whole number of cases were 231, 644, and 1107, or 17.3, 56.1, and 79, in the different periods.

Of the Urinary Organs—Kidneys, Ureters, Bladder, Urethra.—Under *Stone* are included all who died of stone or gravel. In the first period there died of this disease 1 in 1411 of all diseases, in the second 1 in 546, and in the third 1 in 2082. Of all the diseases of this class 9, 30, and 22, or 1.1, 2.6, and 1.5 per 1000 occurred in the respective periods

Of the Organs of Generation.—Under *Childbed* are included cases of "puerperal fever," 63, 121, and 175, or 7.4, 10.5, and 12. per 1000, in the respective periods, occurred by this disease; and 64, 132, and 192, or, 7.6, 11.5, and 13.2 per 1000 of the whole deaths of this class.

We pass over diseases of more vague determination, trusting that a better system of registration will progressively diminish these in all countries. Mr. Shattuck adds:—

"From this view of the causes of death in Boston it appears that 1193, 2037, and 3622 cases, or 140.8, 177.7, and 248.6 per 1000 of all the deaths were from epidemic, endemic, and contagious diseases; and that 7275, 9433, and 10951 cases, or 859.2, 822 3, and 751.4 per 1000 of all the deaths were from sporadic diseases. This shows an increase of the first, and a decrease of the second division of diseases, in the respective periods. If, as has been stated, the great criterion of health is the comparative prevalence of one or the other of these two great divisions of diseases, it follows that Boston is not now quite as healthy as it was twenty or thirty years ago. This fact, I think, may be inferred also from other investigations given in this article.

We are glad to perceive that our transatlantic brethren are taking up the subject of vital statistics. Nothing is more calculated to advance our knowledge of the great causes of disease, of the circumstances that affect the public health, of the means to be taken to improve it, and to force these important questions on the attention of the legislature and the executive.

GUY'S HOSPITAL.

CLINICAL OBSERVATIONS BY MR. MORGAN.*

1. *The Nockemorfs of Guy's*

Be careful what you say respecting the nature and treatment of a patient's case, either in his presence, in the presence of his relations, friends, or attendants: or under any circumstances which may make him or them acquainted with what it is quite unnecessary for them to know. Ever be careful of eavesdroppers. Now do not mistake me. The truth—nothing but the truth—ought always to be spoken, but there is a time and a place for all things. and it is not always necessary to speak the *whole* truth to patients. Deception is always despicable; but, for the welfare of our patients, concealment is sometimes necessary. The concealment to which I allude is neither criminal nor improper—it consists in avoiding the abuse of that unruly member, the tongue. Now I will illustrate and explain what I mean to insist upon. In the room set apart, in this noble institution, for those who are anxious to become our patients here, on our taking-in days, you will always have free access to them before they are seen by the medical officers. Now you may interchange thoughts and opinions in the *hearing* of those applicants for relief, which are not only improper, but injurious to the interests not only of them but of yourselves. Often and often has a patient been driven from the "taking-in" room of a hospital, from having heard the tittle-tattle of medical students in reference to his case. If the case be an urgent one, is not this injurious to the welfare of the listener? But whether urgent or not, we are liable to the loss of the opportunity of showing you the treatment of disease, either by local or constitutional means, by the very great imprudence I am alluding to. Is not this injurious to your interests as well as theirs! Let me illustrate what I mean by one or two examples. A patient, in one of our wards, labouring under serious disease. was asked by one of the pupils where he came from. He replied, from Wisbeach. "O," said the pupil, "my good fellow, you will never see Wisbeach again;" and this had such an effect upon him that he immediately left the hospital. Let us take another instance from the taking-in room. A delicate, hysterical female presents herself, with a small tumor in the breast, which she wishes to have removed by the most lenient measures—as she herself would say *dispersed*. Now, this is what is commonly considered as an interesting case, and a group of pupils collects around the patient. The dresser of Mr. A. examines the breast, and says, "O! here is a nice case for operation. Two semi-elliptical incisions, embracing the whole surface, and then cleanly dissected out." "No," says a pupil of Mr. B., "it would be done much better by a crucial incision, and dissecting back the flaps. B. always takes away the whole of the breast, but generally leaves the nipple." Another young gentleman observes, "That's a case for C., he stands at nothing; he'd have it out in a minute, root and branch;" and the poor girl, now thorougly frightened, hurries away from the tender mercies with which she is threatened, as horrible in her imagination as the tortures of the Spanish Inquisition.

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* Prov. Med. and Surg. Journ. April 10, 1841.

2. *Never tell a Man you mean to give him Pain.*

Surgeons are sometimes equally in error with their pupils, and communicate to their patients what mere patients have no business to know, until they have found it out themselves. There can be no necessity for telling a subject for operation, that you are going to give him pain; common sense will teach him this. Let him know when you are going to commence an operation, and encourage him to bear it firmly; but do not remind him of what he has to undergo. It can do no good, and may possibly unnerve a strength of mind and body previously wound up to the sticking point. I remember an Irishman, who had a fracture of his frontal bone with depression, but no very urgent symptoms had then supervened. He was brought into the operating theatre, for the purpose of being trephined to raise the depressed portion of bone, and Mr. Cline, who was constantly in the habit of preparing his patients for the knife in the manner I have been deprecating, said, "Now, my good fellow, you must be firm. very firm, for I am about to give you a very great deal of pain." When the Irishman leaped from the table, exclaiming, "Och! by Jasus, but you won't though;" rushed from the theatre, and was never seen in the hospital again.

We certainly think that Mr. Cline was rather *green* in telling the man that he should give him a good deal of pain. The common address is—"Now, my good fellow, I'm going to give you a *little* pain." But if a man is inclined to run away, he is as likely to bolt when he is told you are going to begin, in one way as in another.

3. *Mind what you are about in Consultations.*

A very moral young gentleman had been undergoing some violent exertion by which he had strained the interior of the walls of the abdomen. He complained of a good deal of stiffness and pain above the pubes, and the apothecary whom he consulted ordered leeches, followed by fomentations and poultices. There were only the mother and an old nurse in the house with the youth, and they became naturally suspicious at leeches and poultices to a part which they were not allowed to examine. Mr. Hunter was called in, and the nurse, who was very curious to determine exactly how matters stood, applied her ear to the door, and overheard him telling the apothecary that there was a severe strain of the abdominal muscles. She directly ran to her mistress, "O marm, its just as I thought!" "Why, what's the matter?" "O marm, Master Thomas has been and strained his abominable muscle!" (loud laughter.) I may give you an instance also to show how cautious you should be in your manner of speaking before your patient as to the nature of his disease. A patient of Dr. Babington, who had some very obscure abdominal swelling, saw that considerable doubt was entertained as to the precise disease under which he laboured, and consulted one of my colleagues. He saw Dr. Babington some time afterwards, and said, "O, sir, I wish I had consulted Mr. —— sooner. He saw directly what was the matter." "Why," replied the Doctor, "what did Mr. —— say it was?" "O, sir, why he said directly it was a *tumour.*" So you see, gentlemen, how much may be gained by a few generalities in your professional consultations; but I repeat, be careful in speaking before your patients—few have had occasion to repent having said too little—many of having said too much.

CASES FROM THE EARLY NOTE BOOKS OF SIR ASTLEY COOPER.*

1. *Salt-water Poultice.*

This poultice is an excellent application where absorption of extravasated matter is required, or when it is wished to occasion an abundant discharge, to quicken the action of a deep seated abscess. Miss —— bruised the middle and forepart of the leg, occasioning a large ecchymosis and a small sore. The inflammation of this sore spread to the ecchymosed part, which suppurated, though slowly and imperfectly. Tired of their first surgeon, as she had been confined for three months, I was sent for. A small sore at this time appeared on the skin, and a swelling on the outside of the leg, on pressing which, matter was discharged at the sore.

I ordered her a salt-water poultice, a table-spoonful to a pint. In three days the swelling was lessened, but the discharge increased. I then ordered two table-spoonfuls of salt to a pint of water, and in two days the swelling was gone, and the discharge had nearly ceased.

The first proportion was then ordered, and it rapidly filled up and healed.

We cannot say that we are so fond of salt-water poultices. We have seen them give rise to much irritation, and converted a trifling ulcer into a troublesome one. This has happened several times within our observation in cases of ulcers connected with scrofulous glands.

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* Provincial Med. and Surg. Journal, August, 1841.

2. *Want of Synovia.*

A servant of Mr. ——, Queen Street, had a stiffness come on in both her knees, without any visible external appearances of disease. The bones grated upon moving them over each other in the joint, and if she used her legs she complained that considerable heat was occasioned by it. No application was of any service to her.

3. *Imperforate Jejunum.*

A child was born apparently healthy, but was found to reject, in a few minutes, everything that it took into its stomach. A bougie was passed into its rectum, and found no obstruction. It was ordered castor oil and various other purgatives, which almost immediately were returned. It wasted away rapidly, and died twelve days after its birth.

Dissection.—I opened it on the day of its death. On cutting into the abdomen, an intestine of great size presented itself—two inches in diameter—which was found to be imperforated. It was the jejunum, which had this blind extremity; it was placed about ten inches from the origin of that portion of the intestines.

The portion of gut, naturally next to this, but still in this infant entirely separate from it, was no larger than small whipcord; and this, after passing six inches, was obstructed in the same manner. The lower part of the ilium and the larger intestines, which were without disease, were, however, not larger than a goose-quill, from having never been distended. The gall-bladder was quite empty, but the imperforate intestine was full of bile and medicine.

CLINICAL REMARKS OF M. ANDRAL ON FEVER AND INFLAMMATION.*

1. *State of the Blood in Symptomatic and Idiopathic Fever.*

1st. If the fever be symptomatic of inflammation, the quantity of fibrin is augmented; but this increase does not depend on the fever, for there are several fevers, just as intense and long continued as the inflammatory, in which we observe no increase of fibrin; the cause of the increased quantity of fibrin is not easily discovered, and to assign any particular one, in the present state of our knowledge, would be hasty.

2nd. When the fever does not depend on inflammation, we have no augmentation of fibrin, be it ever so severe or prolonged.

3rd. Should simple fever become complicated, during its course, with any inflammatory affection, then the fibrin increases.

4th. Fever and inflammation may co-exist, the latter being an essential element of the former, as inflammation of the skin in small pox, measles, scarlatina, &c.; these affections of the skin, which perhaps should not be ranged under inflammations, are unattended with the characteristic increase of fibrin; the same remark applies to ulceration of the intestines in typhoid fever: however tenaciously some physicians may adhere to the inflammatory doctrine of typhoid fever, it is certain that the ulcerations of the intestinal glands are not accompanied by that increase of fibrin which attends other inflammatory diseases. Hence, whenever fever co-exists with inflammation, and together with it constitutes one of the elements of the disease, the fibrin of the blood is not increased; for example, small-pox, typhoid fever, *&c.* But it is far different when inflammation springs up during the course of the fever, or is one of its effects.

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* Prov. Med. and Surg. Journal, Aug. 1841.

In a certain class of. fevers, the chief cause seems to be the excessive richness of the blood. Inflammatory fevers, of a few days' duration, depend upon this cause.

This richness consists in an increase of the globules, not of the fibrin. The same increase occurs at the commencement of typhoid fever, measles, and scarlatina. We do not find this augmentation of globules in inflammation; it exists in the middle period of fevers.

In continued fevers, the febrile movement persists even when the globules have fallen to their normal standard, or below it. M. Andral instances chlorosis.

Fever may exist with a normal state, increase, or dimunition of the globules. We find that the simple presence of fever never determines an increase in the quantity of fibrin; that fever may exist; 1st, when both fibrin and globules are in normal quantity; 2nd, when the globules alone are increased, the fibrin remaining unchanged. The quantity of fibrin may fall, during typhoid fever, even so low as 0.9; at an early stage of the disease, or when it is mild, the fibrin remains unchanged, but falls as the fever is aggravated; when it assumes an ataxic character, and symptoms of prostration ensue about the fifteenth day, the fibrin also falls; but this is not the case with inflammation.

2. *State of the Blood in Inflammation.*

The condition of the blood in inflammation differs according as the latter is acute, subacute, or chronic.

Fibrin.—The fibrin is always increased during inflammation; it may vary from 4 to 10.

Globules.—These are not necessarily augmented; generally speaking, they retain their normal standard; in rare cases are increased; in others diminished. As the inflammation advances the globules may fall, but this is the effect of blood-letting and abstinence. We have already seen that plethoric persons are not more disposed than others to inflammation.

Solid contents of Serum.—The albumen may be increased, but not necessarily, and the inflammation may attain a very high degree of intensity, without augmentation of the serum.

Physical properties.—The clot is generally very firm and tenacious, because the fibrin has expelled a great proportion of the serum; in fever, on the contrary, the serum is retained, and renders the clot soft and voluminous. In inflammation the clot is small: for as it contains a large portion of fibrin, the globules are firmly pressed together by the contraction of the coagulating part of the blood

3. *Nature of False Membranes and Pus.*

Whenever inflammation terminates in suppuration, the quantity of fibrin increases; hence, the formation of pus and augmentation of fibrin accompany one another; we might indeed, add another phenomenon, viz the formation of false membranes. The fibrin is also augmented in cases where the serum is turbid and mixed with flocci; on analysing false membranes they are found to be composed of fibrin, and this is confirmed by a comparison of false membranes with the buffy coat of blood, to which they bear a perfect resemblance.

Pus is a compound fluid, the composition of which is not yet accurately known; we are unable to assert that it is formed of fibrin, but in certain kinds of pus we find a white substance analogous to fibrin.

BETHLEM HOSPITAL.

REPORT OF SIR ALEXANDER MORISON—PATHOLOGY OF INSANITY.

This Report furnishes an account of the post-mortem appearances presented by the patients who died in the hospital during the last five years. The number of deaths amongst the females was nineteen; amongst the males, twelve.

Morbid Appearances in Females.

Case 1.—No deviation from the normal condition of the brain and membranes observed except congestion of the blood vessels, both external and internal; the cerebral substance, the ventricles, and the arachnoid, were perfectly healthy. The left lung was hepatized, and marks of disease were observed in the chest and abdomen.

Case 7.—The blood-vessels of the brain and membranes turgid; the cellular texture of the pia mater on the convexities of the cerebral hemispheres largely infiltrated: the fluid in the lateral ventricles increased in quantity; there was much fluid in the cranium after the brain had been removed.

Case 8.—The convolutions of the cerebral hemispheres were partially flattened; the blood-vessels of the brain and membranes were loaded; when the dura mater was divided and detached, the subjacent membranes exhibited three or four small patches of a bright yellow discoloration, but no fluid could be squeezed out of them; the cut surfaces of the cerebral substance everywhere exhibited numerous bloody points; the lateral ventricles were distended with about two ounces of turbid fluid in each; there was thick yellow pus, about one or two tea spoonfuls, in the bottom of the reflected horns of each ventricle; the lining membrane of the ventricles exhibited vascular ramifications and minute ecchymoses, and the arachnoid coat covering the pons varolii and neighbouring parts of the brain was thickened and opake, and of a light yellow colour from purulent infiltration; the substance of the brain was soft, particularly around the ventricles and at the basis. The cause of these appearances is conceived by Mr. Lawrence, to whom I am indebted for the description of the morbid appearances, to have been acute inflammation of the lining membrane of the ventricles and of the arachnoid coat.

Case 15.—Much blood escaped on dividing the integuments and sawing the skull, and the vessels of the brain and membranes were enlarged. Five or six quarts of fluid of a reddish colour were contained in the chest.

Case 17.—The blood-vessels of the brain and membranes were turgid; in other respects the contents of the cranium appeared healthy; marks of inflammation were visible in the pleura, in the cavity of which bloody fluid was contained.

Case 18.—A large quantity of blood escaped from the vessels of the head in cutting the skin and sawing through the skull; the vessels of the brain were moderately injected, and there was slight serous infiltration of the pia mater; in other respects the contents of the cranium were perfectly healthy, as also those of the thorax and abdomen.

Case 19.—In this case there was general fulness of the blood-vessels; sections of the cerebral substance everywhere exhibiting numerous divided orifices; there was serous infiltration of the pia mater: at some points of the cerebral hemispheres the convolutions were shrunk so as to leave conspicuous intervals, which were occupied by the infiltrated pia mater; the substance of the brain appeared to be healthy and firm; the trachea and larynx, the contents of the chest, and of the abdomen, were all perfectly healthy, exhibiting no appearance to throw any light on the very sudden death of this patient, which it was imagined might have proceeded from an affection of the heart or some large blood-vessel.

Morbid Appearances in Males.

Case 3.—Remarkable turgidity of the blood-vessels, in the substance of the brain especially; the superior longitudinal sinus filled with a coagulum firmly adhering to its sides like a recent clot, at two or three points gradually changed into a dull reddish brown fluid, of the consistence of pus; a large vein about the middle of each hemisphere greatly distended. and filled with a fine coagulum, presenting at some points a similar fluid; this vein terminated at each side in the cavernous sinus; other veins were filled with firm coagula; a considerable ecchymosis of the pia mater, and slight infiltration of that coat. The lungs were in parts hepatized, and contained an abscess.

Case 5.—Blood-vessels of the brain and membranes turgid; numerous bloody points in the cerebral substance, and the medullary matter presenting here and there a faint violet tint; slight serous infiltration of the pia mater in the cerebral hemispheres; about an ounce of clear fluid in each lateral ventricle. The lungs were diseased.

Case 6.—The blood-vessels of the brain and membranes extremely turgid; the cellular texture of the pia mater in a state of serous infiltration over the entire upper and lateral surfaces of the cerebral hemispheres; the lateral ventricles contained rather more than the normal quantity of fluid, and there was much fluid in the basis of the skull. Extensive hepatization, with a large abscess in the lungs.

Case 7.—The arachnoid coat somewhat thickened and opake, and the pia mater considerably infiltrated over the cerebral hemispheres; the lateral ventricle enlarged, and filled with transparent fluid; a considerable quantity of fluid in the basis of the skull; no deviation from the healthy state observed in the substance of the brain.

Case 8.—The blood-vessels of the brain and membranes turgid; numerous bloody points appeared in every situation; the arachnoid coat thickened and partially opake, especially along the edges of the fissure between the cerebral hemispheres; the cellular substance of the pia mater in the hemispheres considerably infiltrated. The structure of the brain appeared natural.

The mucous membrane of the trachea and bronchii of a bright red, and covered with a thick yellow secretion; the lungs adhered to the sides in several places; contained an abscess and an enlarged bronchial gland containing a substance like putty.

Case 10.—The blood-vessels of the brain and membranes were turgid; the arachnoid coat on the cerebral hemispheres was considerably thickened and opake; there was great infiltration of the pia mater, and an increased quantity of fluid in the ventricles.

CLINICAL REMARKS OF M. VELPEAU.*

1. *Cause of Metastatic Abscesses.*

On one point, however, authors are not well agreed; and that is the manner in which the pus becomes mixed with the blood. Marechal, Legallois, Rochoux, and others, think that it may be explained by venous absorption from the surface of wounds; others, as Dance, Blandin, Arnott, &c. assert that the presence of pus is always preceded by inflammation of the veins, which produces the matter found in the circulation or tissue of organs after death; according to the latter authorities, pus cannot be transported from one part of the body to another without undergoing decomposition. Hence, gentlemen, we have two theories of metastatic abscess: one consisting in simple absorption from the surface of wounds; the other in inflammation of the veins. For my part, I feel convinced that inflammation of the vein does not constantly exist, but that the affection may be produced either as a consequence of phlebitis or of simple absorption. I perfectly agree with Dance, Berard, and Blandin, as to the pernicious effects of phlebitis on the blood; but I differ from them completely in this, that I do not admit phlebitis to be the primitive or even frequent cause of metastatic abscess; the veins, it is true, are frequently inflamed, and may, in certain cases, be the cause of purulent absorption; but in many others we have no inflammation of the veins, and the pus may be introduced into the torrent of the circulation either by the lymphatics, the veins which open on the wound, or by imbibition. How often have I found large collections of pus in the viscera, without being able to detect the slightest trace of inflammation in any part of the venous system? Upon this point I am positive, having determined it so frequently by the most careful examination.

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* Provincial Medical Journal, Aug. 14, 1841.

2. *Metastatic Abscess not always fatal.*

We must not, however, completely despair of saving the patient; for when the unfavourable symptoms last for two or three days only, or when they terminate in some crisis by the urine, general perspiration, &c., and the febrile symptoms subside, some hope is left; I have seen several patients recover under these circumstances; however, we must allow that such cases are very rare.

3. *M. Velpeau's Treatment of Metastatic Abscess.*

Endeavour, in the first place, to determine the fluids towards the wound by large poultices; at the same time apply blisters on the legs or thighs; give some diuretic tisan internally; if the patient be young and robust, the pulse full and strong, then bleed; if he complain of severe pain in the chest or abdomen, apply some leeches or cupping glasses. Should the wound present a dry, unhealthy aspect, you may employ a bark lotion, or in certain cases apply leeches, or scarify it, or put on a blister; these means are particularly indicated when you have any reason to suspect the existence of phlebitis. You may also envelop the limb in a bandage from the wound towards the trunk, so as to exercise powerful compression; purgatives, also, should be employed in addition to the means now pointed out. Should stupor, with meteorismus and dark incrustation of the mouth exist, you may try tartar emetic in high doses. When the patient is very feeble, give the bark or the sulphate of quinine, especially in cases where the symptoms are intermittent. Of the local means, there is none in which I have so much confidence as the bandage, if applied before the pus has found its way in any quantity into the circulation. In inflammation of the veins of the extremities, when the disease has not ascended beyond the venous radicles, and before the formation of metastatic abscess, we can almost always arrest it by the bandage; even when the blood has been tainted, we may still employ it, because we thus cut off the source of the poison, and give the vital powers a chance of overcoming the malady.

We confess that we feel doubtful, at all events in many cases, of the propriety of compression. In a large proportion of instances the primary injury scarcely admits of *such* compression *as can cut off* the entrance of the pus into the circulation; and if it is not cut off, we are unable to see what is gained. Metastatic abscess follows compound fractures of the lower limbs as frequently as any other local lesion. How is compression to prevent the entrance of pus into the veins and absorbents! How indeed is it to do so in any case, for compression which should go to that extent must do infinite mischief to the part.

The remedy from which we have seen most service has been blistering. A very bad case did well under the application of repeated blisters, and in another case the abscesses disappeared with a large deposition of purulent matter in the urine.

CONCLUSIONS OF M. CRUVEILHIER WITH REGARD TO THE SOUNDS OF THE HEART.

It seems, from some experiments which M. Cruveilhier made, that the two sounds of the heart arise at the roots of the aorta and pulmonary artery, and depend on the motions of the sigmoid valves; that the first sound which corresponds to contraction of the ventricles depends on the repression of the sigmoid valves; that the second sound, accompanying the dilatation of the ventricles is caused by the spreading out or expansion of the same valves by the retrograde column of blood.

NATIVE GENERAL HOSPITAL OF BOMBAY.

ANNUAL REPORT FOR THE YEAR 1839.*

1. *Narcotine in Intermittent Fevers.*

A portion of norcotine, procured from Bengal, had a fair trial in thirteen cases, viz. five tertian and eight of the quotidian type, and only succeeded in three—one tertian and two quotidian. The remedy was given in an acid solution in ten grain doses at intervals of two hours for four times; in all of these cases, it even, where it succeeded, produced giddiness, nausea often followed by vomiting and great gastric uneasiness; and difficulty was often experienced in inducing patients to swallow this remedy, who took quinine most readily and without complaint. I think, I noticed that, even in the three successful cases, anorexia was present to a greater extent, and continued for a longer period than seemed likely to have been the case, had narcotine not been used for their cure; ten grain doses were had recourse to, from smaller having been found quite inefficacious. In three cases I gave the medicine in fifteen grain doses, but in all, the first dose was followed by great uneasiness at stomach, and the second was invariably followed by vomiting Quinine cured all those cases, but in two of them, not till after a long period, and only in large doses (ten grains in each). I may remark that the narcotine was tried by Dr. O'Shaughnessy's test, and found by it, to be perfect.

2. *Small-pox after Vaccination.*

Cases of this disease occurring in parties unprotected by vaccination of unusually severe form, have been admitted in every month of the past year, excepting in January, February, and October. The greatest number of admissions and the smallest mortality occurred in March, when many recently attacked were admitted into hospital; but in the other months the cases received have been of the worst possible description, and always at advanced periods of the disease. A confluent rash, and great affection of the throat and head in most, and a copious but imperfectly developed rash in others, have been the most marked features of all the cases.

3. *Recovery from penetrating Wound of Thorax and Abdomen.*

The injuries were inflicted by a man upon his wife. Both blood and air escaped from the wounds of the chest, and a portion of the omentum (which was removed) had escaped from the abdomen: in addition she had a long deep wound at the angle of the jaw, her mouth laid open by another of the cheek, and eight other deep flesh wounds of the trunk and extremities; and yet has never had, after the first thirty-six hours, an unfavourable symptom, and has merely required the exhibition of anodynes, antimonials, and laxatives.

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* Transactions of the Medical and Physical Society of Bombay.

4. *Traumatic Tetanus cured.*

The three cures were cases of traumatic tetanus, and in all salivation was produced, after which the symptoms gradually yielded. A case of severe opisthotonos from Guinea worm, which had appeared at three different parts in the soles of the feet and legs, is now under cure. The patient was admitted on the 4th December, fifteen days after the first appearance of the tetanic symptoms, and in a state which seemed to preclude the possibility of his living many hours. A strong cathartic was given on admission, followed immediately afterwards by a five minim dose of hydrocyanic acid combined with tinct. opii ʒij. This seemed to give relief, and was soon repeated in an increased dose, and he at length took ten minims of the acid with ʒij. of tinct. opii four times a day with occasional purgatives, with the most marked benefit. He can now, 1st January, walk a little, has no rigidity of limbs, and only feels very weak. The acid has been intermitted, and he now only takes half a drachm of tinct. opii twice daily.

ANNUAL REPORT OF THE DISEASES IN THE JAIL AND DETACHMENT HOSPITALS AT RUTNAGHERRY.

1. *Curious Course of a Bullet.*

A man was shot in the back near the angle of the ribs, the ball taking an oblique direction towards the spine: it could not be extracted, and he died, reduced to a skeleton, after being three months in hospital. From the curvature of the spine which took place to a great extent before death, it became evident that there was a loss of substance in the body of one or more of the vertebræ, and accordingly, on dissection, the ball was found to have passed through this part of the bony column, and was discovered lying behind the right kidney, much flattened and indented. The bodies of the two lower dorsal, and of the two upper lumbar vertebræ were almost entirely removed by the passage of the ball, and by subsequent caries and absorption. The escape of the aorta, and the spinal cord and its coverings in such an injury, was a singular feature of this case.

2. *Scurvy.*

The prisoners at Rutnagherry were subjected to unusually rigorous confinement, and the consequence was scurvy. Dr. Bourchier gives a good account of the symptoms.

The disease generally made its attack by a swollen and spongy state of the gums, which were more or less of a livid colour, and bled readily on being irritated; in many instances they extended in triangular processes between the teeth, or projected over them; the tongue sometimes, but not invariably, had an excoriated or fissured appearance near the tip; in seven cases, the mucous membrane of the cheek presented a similar appearance. The breath was generally fetid, and the face more or less puffed and swollen. The affection of the mouth was attended by various degrees of pain and swelling of the lower extremities, most frequently of the hams, in which hard tumors formed.

When the scorbutic diathesis was established, the mere pressure of the irons was apt to produce swelling and inflammation. In one or two cases, very acute pain was felt in the muscular parietes of the chest, unattended with swelling. Lind calls this "a dangerous symptom." It was observable that the greatest swelling was by no means attended with the greatest pain, the legs and ankles being often affected with an enlargement of a stony hardness, scarcely at all painful, and chiefly inconvenient by preventing the play of the muscles and action of the joints; whereas in a few cases the patients suffered most acutely from the slightest pressure on the lower extremities when scarcely at all swollen. In such, the parts had more of a shining appearance, and were much less rigid. The affection of the mouth usually appeared first, but sometimes the scorbutic swellings of the limbs preceded it. The constitutional disturbance was not very considerable in the generality of cases, but lassitude and depression of spirits in various degrees, accompanied the local symptoms, and the countenance exhibited a degree of dejection more or less marked.

The most successful treatment consisted in the exhibition of tonics and cordials, including the bark in decoction and in powder, and particularly quinine. Vegetable acids, as lime and tamarinds, were very freely employed, in combination with "*goor*" or coarse sugar, in itself an excellent antiscorbutic. The local applications which were of most service, were washes and gargles of alum and decoction of bark, and the solution of chloride of lime, hot fomentations and friction (when the case admitted of it) with camphor liniment, or turpentine and oil, to the swellings on the limbs, and opiate plasters when the severe pain would admit of nothing else. With these measures, a more liberal diet than usual was allowed, and the general result was highly satisfactory.

Of the sixty-nine cases, three terminated fatally, two of them being old and debilitated subjects—the third was a robust man, who seemed improving, when he was suddenly attacked with extreme oppression at the chest, and died in a few hours in spite of every thing that could be done. Æther, camphor, and opium, with a blister to the chest, gave temporary relief, but he died, after great suffering, with apparent symptoms of effusion on the chest.

Dr. Bouchier has tried, but without satisfactory results, the nitrate of potash. It failed in his hands.

GUY'S HOSPITAL.

TREATMENT OF FISTULA LACHRYMALIS.*

In cases in which fistula lachrymalis is threatened, the great thing is to keep a free passage through the nasal duct. Mr. Morgan recommends the plan he has been in the habit of pursuing.

As a preventive measure, the mechanical removal of all impediment in the duct is as urgently called for, when the sac is simply distended by its contents in the onset, and before the part is acutely inflamed, as it is when an abscess has formed in that part, the bursting or opening of which affords the surgeon an opportunity of passing his probe with ease through its interior into the strictured canal. Now, gentlemen, I treat a case of stricture in the nasal duct upon the same principles, and nearly in the same manner, as I do a case of stricture in the urethra. In both cases, we find a contraction in the calibre of an excretory duct, resulting from the same cause, viz. an interstitial effusion of adhesive matter, the consequence of inflammation; and in both cases, the object we have in view is to dilate the stricture without lacerating, or in any way injuring, adjacent tissues. In cases of stricture in the urethra, we do not wait for an opportunity of passing an instrument through the contracted canal, till an abscess in the perineum brings us into immediate contact with the disease; nor do we cut down upon the membranous portion till other means have failed; and why should we wait for an abscess in the sac, or open that part through the integuments of the face, with a view of dilating the nasal duct through its interior, when the same mode of treatment as that which we pursue for the cure of stricture in the urethra, is equally available for the cure of stricture in the ductus ad nasum? Through the orifice of this duct, where it enters the nose, a probe can by a practised hand be almost as readily carried through its canal to the stricture, as the bougie is passed through the orifice of the urethra to its membranous portion; and it is by availing ourselves of this mode of applying the mechanical means of remedy, that we shall be enabled to remove at once the greatest difficulty we have to contend with in the treatment of the diseases which I am now describing. The objection which can be offered to the plan I now recommend to you, must, I should think, be the difficulty of passing the instrument; but this objection ought never to be raised, for experience will prove to any one who will take the trouble of trying the experiment, that a little practice will enable him to acquire sufficient dexterity to perform this operation with ease. This may be done by rehearsing it, whenever opportunity offers, upon the dead subject, upon which, as I have now one before me, I will point out the proper mode of proceeding. The instrument I use, and which I now show you, is a metallic bougie, or sound, rather thicker than a common probe, and somewhat conical at the point, bent, as you see, in the shape of an italic letter *S*, for I find this the most convenient form; the handle is flattened, and the instrument about three inches in length. I first pass the point along the floor of the nose, keeping it downwards at first, afterwards carrying it outwards, till I find I have placed it between the inferior turbinated and superior maxillary bones. I then turn it directly upwards, and in this way introduce it into the termination of the duct, which can generally be distinctly felt, as the point is moved gently backwards and forwards along the membrane. This is the most difficult part of the operation, for when you have once fairly entered the point, it is easily pushed onwards by depressing the handle of the instrument. Great care must, however, be taken not to use force in passing it through the duct, the bony case of which is very easily broken down; if you meet with much resistance, which you will seldom do, unless in chronic cases, you must satisfy yourself at first with merely entering the point into the stricture, from time to time, until the constricted parts have yielded; and while you are thus endeavouring gradually to dilate the stricture, as well, indeed, as during the whole process of cure, even when the instrument has been passed, you will find very great advantage from the injection of tepid water in the acute, and astringents in the chronic stages, through the canal; this is best effected by introducing the instrument I now show you into its nasal termination. You see that it is a small catheter of the same shape as the metallic bougie, through which, by attaching a syringe to one end, an injection can be thrown with sufficient force to wash out thoroughly both the duct and sac; a part of your treatment which is of considerable importance. In adopting this mode of proceeding, it is unnecessary to push the end of the catheter into the sac, for if it is merely introduced into the mouth of the duct, the injected fluid will readily pass into the inflamed cavities. You must, I think, be at once convinced of the superiority of this plan, when it is practicable, over that which is usually adopted—I mean the injection of the lachrymal conduits through the puncta. Sometimes, however, when the stricture is firm, and the canal perfectly impervious to the passage of either your instrument or your injections, you must have recourse to this latter mode for accomplishing your object, and, by introducing a punctum tube, inject the sac by means of Anel's syringe. You are always to fill and empty this two or three times by pressure, whenever you use the injection. If you are called to a case of abscess of the sac presenting an external opening, it is better to pass your probe first through the upper opening of the duct; this is of course by far the most easy way of overcoming the obstruction; and having once passed a probe in this direction, its introduction from below is at once insured, and you may venture to use more force in operating through the sac than through the nose.

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* Prov. Med. Journ. Aug. 28, 1841,

Having taken advantage of an opening thus already made, by establishing the continuity of the canal in this way, it will be your object to prevent a fistulous opening in the face, from the continued discharge of the abscess, by endeavouring to effect the closure of the wound, avoiding the subsequent use of any instrument through the sac, and insuring the permanent dilatation of the stricture, by carrying on your operations from the nose. The nasal probe or bougie should be used about twice a week, and the sac and duct injected daily. In those cases where abscess has formed, and the integuments have become not only deeply discoloured, but obviously so thinned by absorption, as to render the natural evacuation of pus through the surface inevitable, it is better to puncture the abscess at once, and having passed a probe through the duct from the sac, endeavour to close the opening in the face by following the plan of treatment I have mentioned, and which perhaps, if pursued in the commencement, might have prevented the disease from terminating its course in the manner I have described. Keep a nasal duct freely open, gentlemen, and you need not fear fistula lachrymalis, or abscess of the lachrymal sac.

BRUIT DE SOUFFLE IN ANÆMIC CASES.

The following observations, and they are valuable, will be found in M. Andral's Lectures.

1st. When a patient has been bled several times, or suffered from frequent hæmorrhage, the *bruit de souffle*, either permanent or intermittent, often occurs, but not constantly.

2nd. In spontaneous anæmia the same bruit exists.

3rd. Whenever the blood globules fall below 80, the *bruit de souffle* is constantly heard in the arteries, and sometimes in the heart.

4th. The same often occurs with diminution of the globules between 80 and 100; or in rarer cases, between 100 and 125.

5th. In some very rare cases, the *bruit de souffle* exists when the globules are at 131 to 137; hence we must conclude that it is not exclusively connected with diminution of the globules.

The above results were obtained from an analysis of 93 cases in which the *bruit de souffle* existed in the heart or arteries. Amongst the 93 cases it was permanent in 56; and in the latter the globules were 28 times above 80; 13 between 80 and 100; 10 between 100 and 115; 5 between 115 and 125. It was intermittent in three cases, where the globules were below 80; in 13 between 80 and 100; in 8 between 100 and 115; in 5 between 115 and 125; in 3 between 125 and 137; and in 3 between 131 and 137. The intermittent souffle is less valuable as a symptom than the constant; the latter is more characteristic of diminution of the globules, and becomes intermittent as their proportion is increased.

The *bruit de souffle* occurs in several other diseases, as well as in chlorosis. In one case of rheumatism, where the globules were at 97, the permanent bruit was heard; it was intermittent in another case, where they were at 99; from 81 to 97, it was sometimes permanent, sometimes intermittent. This bruit very rarely occurs in pneumonia, although the patient may have been frequently bled; a circumstance readily explained by the inflammatory nature of the disease; but it should be remarked, that the globules never fall as low in pneumonia as in rheumatism. From the above, it is evident that abstraction of blood is injurious in persons of anæmic temperament, unless there exists some disease which imperatively demands it; on the contrary, substantial diet augments the globules, and hence is beneficial; the same remark applies to the preparations of iron, which increase the proportion of globules, and not the fibrin.—*Prov. Med. and Surg. Journ. Aug.* 7, 1841.

SPIRIT OF THE BRITISH AND AMERICAN PERIODICALS, &c.

The Retrospect of Practical Medicine and Surgery. For the First Half Year of 1841. By W. Braithwaite, M.R.C.S., &c. &c.

We have, on a previous occasion, expressed a high opinion of Mr. Braithwaite's work. It is one so eminently calculated to be useful, that we hope it will be widely patronised. We shall ourselves notice several of its articles.

1. *The Tinctura Ferri Sesquichloridi in Discharges of Blood from the Urethra.*

Mr. Clay, of Manchester, has contributed some observations on this subject to the Lancet. He says:—In all cases where great discharges of blood have taken place by the urethra, it is generally remarked that the quantity of urine is small; and this is a strong presumptive proof that the disease is seated in the secreting organs, and not in the bladder: under such circumstances we can hope for no advantage by local applications to the inner surface of the bladder; it must be evident, our only advantage is by constitutional treatment, assisted by local applications over the region of the kidneys. In a case that he relates, Mr. Clay prescribed with the happiest effect:—

Tincture of muriate of iron, ʒj.; *tincture of opium*, ʒiss.; *infusion of Iceland moss*, *infusion of gentian*, of each ℥iv. Let an ounce be taken every four hours.

Mr. Clay adds:—Occasionally I have obtained relief from blisters and tartar emetic plaster over the region of the kidneys; but, except in recent cases, and of no great extent, I have not found them of permanent benefit; on the contrary, few cases have withstood the tinct. fer. mur. The number of cases I have seen relieved and cured by it, warrants the conclusion, that the disease is generally in the kidneys, and must therefore be attacked through the constitution.

2. *Stimulating Treatment of Cerebral Disease.*

Mr. E. Copeman has had a paper in the Medical Gazette which contains the following conclusions:—

1. That apoplectic and paralytic affections may take place in an extreme degree without organic disease of the brain.
2 That they often occur from other causes than pressure on the brain.
3. That bleeding, so far from being always necessary, is in many instances prejudicial.
4. That the effort of vomiting is not so prejudical in these diseases as is generally supposed.
5. That counter-irritation, both external and internal, is a valuable means of affording relief to the symptoms immediately succeeding the attack.

Mr. Copeman inquires, whether there are symptoms generally present in cases of apoplexy and paralysis, which, by strict observation, may enable us to distinguish clearly between those which require bleeding, and those which would be better treated without it. I frankly confess my inability to answer it satisfactorily, and find that others have also failed in doing so. If I may be allowed to give an opinion, I should say that bleeding is unnecessary or prejudicial where the patient is 60 years of age or upwards; where the pulse is feeble, very frequent, intermitting, slow, or large, and inclined to double beat, (I have always found a pulse with double beat indicative of a state of system best relieved by diffusible stimuli,) where the respiration is laboured and accompanied with *cold* perspiration; where there is great mobility of the nervous system with weak muscles, whether the body be thin or *corpulent*; when the attack comes on soon after a full meal, or after great bodily or mental fatigue.

A quick, wiry, resisting pulse, flushed countenance, warm perspiration, noisy breathing, and a tendency to spasmodic muscular contraction, occurring in persons of an earlier age, seem to point out a necessity for resorting to abstraction of blood; but I believe there will be less danger in not bleeding in any case, than in always having recourse to it, where there are *some* circumstances indicative of the propriety of its employment.

3. *Guaiacum for Cynanche, and for Rheumatism.*

Several cases of cynanche are related by Mr. Bell, of Banhead, in which half drachm doses of the powdered guaiacum every four or six hours, either alone or mixed up in a suitable form, were attended with very remarkable success; and we recommend the reader to turn to the several cases related in the original paper in the Medical Gazette. Mr. Bell's formula is as follows:

℞ Pulv. Guaiac. ʒiij.; Mucil. G. Arab.; Syrup. Simpl. āā. ℥ij.; Aq. Cinnamom., Aq. Puræ, āā ℥iv. M. et solve. Capt. ℥ij. 4ta. q.q. h.

[One or two days are only required for the cure. In other cases the powdered drug was given in some simpler vehicle. It will be found chiefly successful, if given before suppuration has taken place.]

Guaiacum is a favourite remedy of Dr. Seymour's in rheumatism. In one of his late clinical lectures, at St. George's Hospital, speaking of the treatment of rheumatism, he says:

I generally premise a good bleeding, and afterwards administer the *guaiacum mixture*, and in a few days the patients are well. In the cases at present under our notice, I have followed out this plan, and you have seen how very successful it has proved. How the *guaiacum mixture* acts in these cases I do not pretend to say, except that it causes a profuse increase of the secretions from the skin, the bowels and the bladder; I never find that it begins to effect a cure until all these are fully established.

4. *Piperine in Intermittent Fevers.*

Dr. Hartle, Port of Spain, West Indies, writes—I began, as soon as the sweating stage was established, by giving three grains of piperine every hour, until eighteen grains had been taken; and on the following day, when the intermission was complete, I gave the same quantity every three hours. It has in every case succeeded in checking the paroxysm, and as soon as that was accomplished, I gave for some days the following pills:

℞. *Pilulæ Hydrarg.* gr. i.; *Piperinæ*, gr. ij.; *Sulph Quinæ*, gr. ij.; *Syrup com. q. s. f. M. f. Pil. no.* 1. *omni mane, meridie, et vespere capienda.*

5. *Poultices in Inflammations of the Great Cavities.*

The application of poultices in cases of inflammation of the great cavities is a common practice in France. The usual material, says Sir C. Smith, in the Dublin Journal, for poultices is the linseed meal; and they are usually included within linen cloths. The poultices are generally so large as to cover the seat of inflammation. They should be removed and renewed every three or four hours. Particular attention to the latter circumstance is desirable, as the edges are liable to grow cold, and a disagreeable and dangerous dissipation of animal temperature is the result; and in this and in their weight consist, I think, the principal disadvantages of the system.

In the bronchial irritation attendant upon the exanthematous fevers, poultices to the chest are universally employed; and where any want of energy appears to exist in the system, preventing the coming out of the eruption, cataplasms, consisting of the usual linseed meal, with the addition of a very small quantity, say a twelfth or a fifteenth part of mustard meal, (not flour,) are applied to the feet, and maintained for days together; thus keeping up both the temperature of the extremities, and gently stimulating the skin. The same mixture is also, when necessary, applied to the calves of the legs and thighs—the practice in the latter instances being similar in intention to that adopted in Great Britain; but from the mustard meal being less irritating than the flour, and being used in so small a proportion, the sinapized cataplasms can be longer retained in their situation.

Pleurodynia, diaphragmitis, and many other affections of a painful nature, are likewise treated by poultices; and it is certain, that their effects are often, in such cases, very satisfactory.

We have long been in the habit of employing poultices in cases of inflammation of the great cavities. They are certainly useful, but to nothing like the extent which our neighbours of France seem to think. This is indeed a part of their do-little practice, a branch of the tree which bears the sloppy fruit of the demi-lavements, ptisans, and so forth. It is chiefly in cases of inflammation of the mucous membranes towards its decline, of irritation of those membranes, and of rheumatism, that they are useful. But poultices are not to be a substitute for active treatment—only a rider to it.

6. *Salivation from Iodine and Salivation from Mercury.*

Sir F. Smith writes in the Dublin Journal of Medical Science:—

In the July number of this Journal* I made mentien of a case in which I had met with salivation from the use of hydriodate of potass. The fact of salivation occurring from the use of iodine or its preparations is not new: I have, since the publication of the article referred to, met with it in two instances, in one that of a young gentleman using the hydriodate of potass, for a scrofulous necrosis in the bones of the legs; the other that of a young lady, who, for a glandular disease of the neck, was put under the influence of iodine, administered in the watery solution as recommended by Dr. Osborne, of Dublin, at the rate of a grain to the pint; both had been under the influence of the mineral during nearly four months, and had been copiously salivated, and required mercurial purgations, and the administration of bark for the relief of the ptyalism. In each of these cases the entire absence of fetor of the breath was remarked, as was mentioned to have been the case in that which was recorded in the July number. Now, it is worthy of inquiry, why, when fetor is so constantly found to attend salivation by mercury, none should accompany salivation by iodine or its salts? I believe the difference to depend upon the fact that in the action of mercury upon the mouth, there is not only an action induced upon the salivary glands, but also upon the mucous membrane of the mouth, from the alteration in the structure of which latter tissue arises the fetor. If the mucous membrane of the lips, cheeks, or gums be examined with a powerful lens, at the period when mercurial action is commencing in them, a species of ulcerative absorption will be observed to be in progress, which, being increased by the continuance of the cause, soon ends in ulcers of greater or lesser size, perceptible to the naked eye. On the contrary, in the salivation by iodine, the principal, if not the only action of the medicine, is directed to the salivary glands; and though I have in one case observed, with great surprise, the teeth to be loosened, I have never been able to discover any thing like ulcerative action to exist in the mucous membrane of the mouth, and upon this peculiar difference in their relative actions depends, I believe, the presence or absence of fetor of the breath during salivation induced by mercury, and iodine or its compounds.

7. *Pure Tannin for Profuse Perspiration.*

Sweating, says Dr. Chervet, is a morbid symptom which is often so serious and inconvenient, that the practitioner is obliged to combat it by special remedies.

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* The Dublin Journal of Medical Science.

The acetate of lead, which has been extolled of late years, sometimes causes inconveniences which hinder many practitioners from employing it in cases where its use seems clearly indicated. Pure tannin, employed as an anti-sudorific, appears to be free from these disadvantages. The author has employed it for two years at the hospital, and in his private practice, and though it has not succeeded in every case, it has in almost all.

He prescribes it in the form of pill, and in the dose of from two and a half to ten centigrammes (half a grain to two grains) in twenty-four hours, generally in the evening, with or without opium, which neither checks nor favours its action.

8. *Pitch for Piles.*

Dr. Wardleworth assures us that he has used this remedy with advantage in many cases, both of external and internal piles. His usual formula consists in ordering 3½ grains of pitch to be made into pills, two of which are to be taken every evening. The well-known efficacy of balsamic remedies in piles may perhaps serve to recommend these pitch-pills.

9. *Burnt Rhubarb in Diarrhœa.*

Mr. Hoblyn, of the Middlesex Hospital, informs us that—

It may be useful to the profession to know the value of burnt rhubarb in diarrhœa. I have used it for seven years, and found it more serviceable in the diarrhœa, attendant on the last stage of consumption, than the chalk-mixture and opium, or any other of the usual remedies.

I have known it used, with the same pleasing effects, for more than twenty years, in incidental diarrhœas. After one or two doses, the pains quickly subside, and the bowels return to their natural state. The dose is from five to ten grains.

The manner of preparing it is to burn the rhubarb powder in an iron crucible, stirring it until it is blackened; then smother it in a covered jar.

It loses two thirds of its weight by the incineration. It is nearly tasteless. In no one case where I have known it given has it failed. I have given it in port wine, milk, and water.

10. *Peculiar mode of giving Mercury in Chronic Hydrocephalus.*

Dr. Watson, in his admirable Lectures, tells this case.

An apothecary of considerable experience—now dead—had a lad, fourteen years old, whose name was Scott, under his care, with chronic hydrocephalus, in the year 1817. He had been ill two or three years. He was nearly blind, had very little use of his lower extremities, and could not walk across the room without support. He suffered violent pains in his head, and was unable to bear the least pressure on his scalp. His bowels were constipated, and his pulse "oppressed." Cupping and blistering, and the blue-pill, and drastic purgatives, and ordinary diuretics, tried in combination and succession, gave him temporary relief; but no permanent benefit was obtained. Dr. Gower then suggested a plan which he had himself found successful in such cases, and which had first been used by Dr. Carmichael Smyth, who had recorded ten cases of recovery under its adoption. Dr. Gower's plan was to rub down ten grains of crude mercury with about a scruple of manna, and five grains of *fresh* squills: this was to be one dose; and it was to be repeated every eight hours.

My informant rubbed the quicksilver down with conserve of roses, and then added the fresh squills, making the whole into the consistence proper for pills, with liquorice powder. The patient took this dose three times a day, for nearly three weeks, without any ptyalism being produced. Its effects were great prostration of strength, and loss of flesh, with graduel relief of all the boy's sufferings. It operated profusely by the kidneys. The medicine was continued twice a day, and at length once, for another fortnight; when all the symptoms of the disease had disappeared. The boy was greatly emaciated: he was then ordered an ounce and a half of Griffiths' mixture thrice daily; and soon regained his health and strength, and got quite well. And he remained well eight years afterwards.

The same apothecary had another case under his care, which, under the same treatment, terminated equally well.

11. *Dangers of Opium in Delirium Tremens.*

Dr. Ware, of Boston, publishes a table of 69 cases of delirium tremens, treated in different ways.

Treatment.	Number of cases	Bled	Died	Recovered.	Complicated with acute Diseases
Opium, lage doses	8		4	4	1
,, small....	7	1	2	5	1
Emetics.........	12	1	1	11	2
Bleeding........	2	2		2	
Eclectic	9	5	3	6	7
Quinine	1			1	1
Mercurials	1			1	
Expectant.......	29	4		28	1
	69	13	11	58	13

It appears, that of fifteen cases in which opium constituted the principal remedy, six died; whilst of fifty-four in which opium was not used at all, or only incidentally in small quantities, only five died. Still further, if we separate from these fifty-four, the nine cases in which the treatment was eclectic, and in which the mortality seems to have arisen from the combination of acute disease, we have a remainder of forty-five cases, of which only two were fatal.—Again, if we compare the mortality of those cases in which opium was pushed to the full extent advised by writers on this disease, with those in which no active remedy was employed, we have a mortality of one in two, against a mortality of only one in twenty-nine.

This difference in the result of treatment would seem altogether too great to be attributed to accident, and goes far to establish the truth of the opinion formerly expressed, that opium given in large doses is actually injurious to patients labouring under delirium tremens. But even admitting it to be possible, that the great proportion of fatal cases occurring where opium was used, was accidental, it certainly, I think, will not be contended, that the favourable termination of the cases not treated by opium, was also owing to accident. And it will certainly follow that opium, if not actually injurious to these patients, is at least useless, and that our success in this disease will be sufficiently satisfactory without it.

It is certainly difficult to argue against figures, but we are tempted, notwithstanding, to doubt these conclusions. We recollect what delirium tremens was before the opium practice was in common use, and what it is at present, and we can scarcely bring our minds to believe that that practice is not a great improvement. We do conceive that the change of practice has succeeded to a great extent. But those who prefer the old plan, who would rather—

Stare super antiquas vias,

may appeal to Dr. Ware's paper.

12. *New kind of Catheter.*

Mr. Foulkes, of Liverpool, has brought this forward. It is to obviate the necessity of using different-sized instruments in cases of spasmodic or permanent stricture of the urethra: or rather to prevent the necessity of withdrawing the one first used when too large, and substituting smaller ones. The instruments are all made of flexible gum. The outer or largest catheter or case contains a smaller one; both these are tipped with silver—within these there is a still smaller one, round as a common catheter with an aperture at the side for the escape of urine; they all slide one within the other. The smaller one can be advanced through the contracted part, if the larger one is prevented passing. It is something the same as if we passed a catheter down to the stricture, and when not able to pass it further we advanced the stilette of the catheter through an opening at the end of the catheter and through the stricture. The whole, when put together, forms a sufficiently round point to protect the urethra from injury.

13. *Subcutaneous Division of Bursæ Mucosæ.*

[Professor Williams, of Dublin, has cured several cases of chronic tumours of the bursæ mucosæ and sinovial sheaths of tendons "by the subcutaneous division of the sac of the tumour and the subsequent application of "pressure."]

A cataract needle was passed into the tumour (an enlarged bursa over the knee), and the entire thickness of the sac divided by several parallel and longitudinal incisions. A portion of the fluid escaped into the cellular tissue, but the greater part found exit externally on the withdrawal of the needle. The knee was than strapped with adhesive plaster, and the limb kept at rest.

[Dr. Houston confirms Mr. Williams's statement by a similar case of his own, respecting which he says,]

The operation was performed with the cataract needle, but as the needle would not have extended much more than half the diameter of the tumour, it was necessary to introduce it first at one side, and then at the other. In this way a number of radiating incisions were made through the sac on both sides, so that there were at least half a dozen incisions on both sides, radiating from the point where the needle was introduced. Next day the tumour had nearly disappeared, and there was no subsequent pain or inflammation. About a tea-spoonful of fluid escaped during the operation.

14. *Excision of Tendons for Paralysis of Muscles.*

Mr. Braid, of Manchester, relates, in the Medical Gazette, several cases of talipes, arising from a *paralytic state* of certain muscles instead of the more common causes, viz., a too powerful or contracted state. For the cure of these cases, he excises a small portion of the particular tendons implicated in the disease, and by the consequent union of the divided ends, he produces such a degree of contraction in the paralytic limb as to act most favorably. Take a case.

Miss ——, æt. six years, has been deprived of the use of the left leg by a paralytic stroke. She has undergone a variety of treatment under some of the first medical gentlemen of this town; but, for the last two years, has been given up as a hopeless case. Her present condition is this: the left leg is perfectly powerless, dangling by the side of her crutch, without reaching the ground, and is much colder than is natural; the foot assuming the appearance of a slight degree of varus, so that it would, if brought to the ground, rest on its outer edge; the toes inclined a little inwards, and the heel slightly elevated. On the 30th of June, 1840, assisted by Mr. Rhind, my son, and one of my apprentices, Mr. Pacey, I mada a longitudinal incision along the course of a peronæus tertius, which I elevated, and excised a portion of it, to the extent of three-sixteenths of an inch. I then closed the wound with plaster, and applied splints and bandages, so as to aproximate the divided ends, and maintain them in contact.

10th.—In the presence of my talented friend, Dr. J. L. Bardsley, and others, she actually walked across the room and back again without any assistance whatever,—a fact which equally astonished and delighted him and all present. In twenty days she was enabled to walk about in a laced-up boot; and in a week more to throw her crutches aside entirely. She has remained well and strong ever since. Besides the operation nothing else was done in this case, excepting the use of a stimulating liniment, which she had employed before without the least benefit.

15. *Nitrate of Silver for the Stoppage of Hæmorrhage after Extraction of Teeth.*

Mr. Ray has published a case in the Lancet. Upon placing the patient, with a slight inclination backwards, she immediately choked, and it being night, and in the upper jaw near the throat, I had much trouble in obtaining a view of the situation of the hæmorrhage, which flowed as freely, with the pressure of my finger in the socket, as with the addition of small pledgets of lint, steeped in a saturated solution of alum. After an ineffectual trial of these means, I took a stick of nitrate of silver, rounded at the extremity, and firmly forcing it to the bottom of the cavity, allowed it to remain a few seconds in this situation; very little pain was expressed, and, upon its withdrawal, I was gratified in finding a complete cessation of the hæmorrhage. The mouth was kept open with a cork, for about half an hour, to admit air freely, and ensure the preservation of the clot, which might have been disturbed or removed by suction; she then took forty minims of opium and a teaspoonful of compound spirit of ammonia, and afterwards rested five or six hours. With the exception of an unpleasant *cuprous* flavour communicated to all nourishment for the next few days, nothing was complained of but extreme exhaustion, which was many months in disappearing.

16. *Sir B. Brodie on the Treatment of Ununited Fracture.*

Some years ago he had made some experiments on the mode in which fractured bones united, and he had come to the same conclusion as Dupuytren, without having been aware that he had been pursuing the same inquiry. The result of these experiments had satisfied him that union at first depended more upon the neighbouring cellular tissue than upon the periosteum, whatever part the latter might afterwards play in the process. He might take this opportunity of remarking, that he had found the most successful plan of treating ununited fracture, to be that pursued by Mr. Amesbury, and consisting in the binding of the limb in an immovable apparatus, by which the extremities of the fractured bone were kept in a state of forcible apposition for a long period. The plan was a very painful, but a very successful one. He had succeeded in procuring union, by this mode of proceeding, in one case, in which the fracture had been ununited for two or three years, and a seton had been passed through it without benefit, the arm remaining dangling and useless. In the experiments he had alluded to, only one case of union by ligament occurred, and this was in a fracture of the femur of a rabbit. He had endeavoured to account for this deviation from the general rule, but had not succeeded.

17. *The late Mr. Earle on the Mode of Preventing Contraction after Burns.*

I am quite ready to admit that it is not in our power to arrest the law of nature, by which a cicatrized suface becomes smaller, and occupies less space, than the original wound: but it is in our power, in most cases, to direct and modify that which we cannot wholly prevent; and thus, at all events, to counteract its injurious effect......To take the upper extremity as an example, I will suppose a case, where the whole integuments on the inner and front part of the arm and fore-arm have been destroyed. If such extremity be kept carefully extended on a splint, *not only during the whole process of healing, but long subsequent to the perfect cicatrization*, you will find that the cicatrized surface will diminish in a circular direction, drawing the healthy integuments together from side to side, but that no contraction will take place in the long axis, in which alone it can impede the due motions of the limb. This permanent extension should be persevered in during the *day and night*, until all changes have ceased, and the cicatrix has contracted to its smallest dimensions. Care, however, should be taken during this time, to give passive motion to the different joints, by which the proper secretion of synovia will be kept up, and the eventual free use of the limb will be ensured. This plan of maintaining the limb in a state of permanent extension should be commenced as soon as the wound has begun to granulate.

18. *Another Infallible Specific for Gonorrhœa.*

M. Gaudriot concludes that the chloride of zinc, properly diluted, has a remarkable power in curing simple gonorrhœa of the urethra and vagina, also in dilating the urethra, and thereby ameliorating strictures. He believes that it is always by an inflammation *sui generis* that the discharge is cured, and that injections of the chloride of zinc determine a series of phenomena not produced by other caustics. It is only necessary to use a few drops of injection, as the extremity of the urethra is the only part to which it should be applied. To combat vaginal gonorrhœa in women M. Gaudriot proposes a new proceeding, which consists in the use of solid vaginal suppositories, composed of a paste made to melt easily, and containing a certain quantity of liquid chloride of zinc and sulphate of morphine.

In men the author employs the following formula:

Liquid chloride of zinc, 24 to 36 drops.
Distilled water, four ounces.
Agitate and filter through paper.

A small quantity of this solution should be injected about an inch along the urethra, two or three times a day.

The vaginal suppository which he employs is formed of—

Liquid chloride of zinc, 5 drops.
Sulphate of morphine half a grain.
Mix with three drachms of the following paste.

Mucilage of gum tragacanth,	6	parts.
Powdered sugar	3	,,
Starch powder	9	,,

To cure radically a gonorrhœa in man, it will ordinarily suffice to apply two injections a day for two or three days. The first injections are almost always followed by more or less swelling of the glans penis, but this does not prevent their continuance.

In women four or six suppositories, one being introduced every day, or every second day, suffice to obtain a cure. The first introduction frequently occasions a swelling with more or less heat of the vulva, but these phenomena are soon completely dissipated. Emollient baths have in most of the cases been employed for this purpose.

Those who are easy of faith will believe M. Gaudriot.

19. *The Steam Apparatus.*

A very ingenious one has been invented by M. Duval. The apparatus in appearance is somewhat elegant, is comprised in so small a space that it may readily be carried in the hand, and may be applied either locally or generally, as circumstances may require, with equal facility. It consists of a reservoir for the water, capable of containing a little more than a pint, supported upon three metallic rods, and having a coverlid which is furnished with two openings, one at the centre and one towards the side. From that in the centre arises a tube, terminating in a hollow globe, having attached to it, and communicating with its interior, three short branches furnished with moveable lids. A similar branch is connected with the opening at the upper edge of the reservoir. Beneath, on a pan supporting the parts already described, is placed a spirit lamp, having four burners, and these, when lighted, quickly vaporize the water in the reservoir above. The steam is then conducted to the globe, and thence, by means of short pipes slightly curved, and which may be connected with any one or all of its branches at pleasure, to the part of the body required. The force and the quantity of vapour expelled, is regulated by a key at the side of the principal cylinder, and which will diminish or enlarge its diameter much on the principle of the ordinary stopcock, while its escape upwards is entirely and instantly prevented by exposing the opening at the edge of the reservoir. The way in which it has been used for affections of the joints is simply this—the patient covers the wrist, for instance, with a piece of flannel, large enough for its edges to fall on a pillow, which is placed to support the fore-arm. The nozzle of one of the tubes is then placed beneath the funnel, and the steam allowed to escape. The joint thus enveloped in steam, has usually been allowed to remain for about half an hour; the application being made once a day, or oftener, as the circumstances require. Various modifications of the tubes for different purposes are capable of being adjusted to the openings in the reservoir; but the above-mentioned forms have been found sufficient for such cases as those about to be noticed.

The vapour bath in this form has been introduced into Guy's Hospital within the last two months, and has since been used extensively, and with considerable benefit.

The apparatus is thus used:—The patient lies supine in bed, and three or four slender arches of wood, or other convenient material, are placed across the body, so as effectually to raise the blanket from any contact with it. The apparatus is supported on a stool at the foot of the bed, and one of the pipes allowed to project into the arched cavity, which soon becomes filled with the vapour. In this way all the inconveniences attending a removal to and from the bed are of course got rid of.

20. *How to Cure Choking.*

Choking, says Dr. Marshall Hall, is only another form of the croup-like convulsion, arising from a more sudden but less permanent *cause*, upon *other* incident excitor *nerves*; and it is to be treated upon precisely similar principles: *the cause must be effectually removed, and as speedily as possible.*

I was witness to a case of choking the other day; respiration was arrested; there was a fearful struggle for breath; not a moment was to be lost; I took the boy and placed him between my knees, so that I could make free pressure on the abdomen, whilst I placed one open hand on the posterior part of the thorax, and struck with the flat part of the other, gently closed, on the anterior, briskly, forcibly; the latter part of this operation was promptly performed, and the little patient was instantly relieved.

21. *Suture of the Labia for Procidentia Uteri.*

Professor Geddings has operated successfully in four cases; and the following is the manner in which the operation was performed. The patient was placed in the ordinary position for lithotomy, and the prolapsus reduced. One labium was then put on the stretch by an assistant, and an incision was commenced, with a common scalpel, about a finger's breadth from the upper commissure, and the same distance from the edge of the labium. The incision was carried downwards with a bold sweep, and terminated by a slight curve inwards, and at a little distance behind the fourchette. A slip of the labium of a finger's breadth in thickness was thus severed from the external parts, taking care not to cut through the mucous membrane of the vagina. Making traction on this slip, downwards and inwards, the mucous membrane of the lateral portion of the vagina was then dissected up to the extent of an inch and a half, and detached with the excised labium. The same thing was repeated on the opposite side, the incision being so directed as to intersect the first cut at an acute angle, and remove the fourchette with the other parts. After the hæmorrhage, which was generally inconsiderable, had ceased, an oiled sponge was passed into the vagina, and the two raw surfaces brought into apposition by means of the quilled suture of five stitches. The parts were dressed with a compress of soft lint, secured by a T bandage, and the patient put to bed, with her ankles and knees properly secured together by means of bandages. It was not found necessary to use the catheter, but considerable advantage was derived from keeping the dressings constantly wet with cold water. The introduction of the sponge is for the purpose of preventing the descent of the uterus till adhesion had taken place, and was generally removed about the fifth or sixth day. The sutures were removed in proportion as the parts appeared to be united.

In the four cases operated on by Professor Geddings, no return of the complaint had occurred at the period of the publication of this paper, and they had all returned to their usual avocations.

22. *How Artificial Light impairs Vision.*

Dr. Hunter, Surgeon to the Eye-Dispensary, Edinburgh, thus explains it.

Common day-light, which is the only natural light, and the least injurious to the eyes, consists of red, yellow and blue rays in the ratio of 5, 3, and eight; that is a predominance of blue rays, which forms the mildest and least hurtful to the retina. In the ordinary forms of artificial light, as the light from candles, either of tallow or wax, oil or coal gas, this proportion is reversed, the yellow and the red rays being in excess, and the blue rays in the ratio of minority.—From this peculiarity in artificial light in the excess of red and yellow rays, various inconveniences and evils result.

1. Colours and coloured objects appear in it differently from what they do by day-light. 2. The retina is unequally, we would say too strongly excited, and becomes less sensible to those rays that are in excess, so that afterwards, when it views a white object by day-light, the blue rays contained in the white light reflected from its surface, make a greater impression than the red or yellow rays, and the objects assume more or less of a dingy blue or purple colour. This over-excitement of the retina produces films, *muscæ volitantes*, and even amaurosis. 3. The red and yellow rays possess considerably higher heating powers than the blue rays, and therefore artificial light, which contains these calorific rays in larger proportion, must be injurious to the retina in this manner. 4. From artificial light furnishing less defining power, it is requisite to use it in considerable quantity; and this is another source of over-excitement to the retina. 5. While, in the case of natural or day-light, the ordinary calorific or heating powers of the red and yellow rays are, by various circumstances and beautiful provisions in its transmission through the atmosphere, almost annihilated, so that these rays arrive at the eye with much less of their heating powers than they would have, if direct, the rays of artificial light, by coming more directly and in a more concentrated form on the eye, are accompanied with their concomitant heat, and thereby injure the retina greatly by this hurtful adjunct. 6. The carbonic acid gas which is extricated from all artificial lights, procured as they are by combustion, though not acting on the eye itself, acts on the brain, and especially the optic nerves, the sensibility of which it weakens and ultimately destroys. 7. All artificial lights are unsteady and irregular, and very often placed in improper positions.

Of all artificial lights, gas light is the most hurtful, not from anything peculiarly noxious in its qualities, but from its cheapness, which leads to its being used in excess, and consequently, in such quantity as to over-stimulate the eyes.

To obviate these several evils, Dr. Hunter recommends the more sparing use of gas-light and other artificial lights, and the employment of means calculated either to add blue rays when deficient, or to withdraw the red and yellow rays when in excess.

This object is to be attained by the use of conical reflectors of a bluish or azure colour, and chimneys stained of a blue colour. Pale blue glasses are also recommended; but Dr. Hunter thinks their use is not advisable, as they become hot and require, from the loss of light they cause, to be often removed.

23. *True and False Corpora Lutea.*

Dr. Paterson has shewn, that false corpora lutea are frequently connected with menstruation, and has given several cases in illustration. He comes to the following conclusions:—

"False corpora lutea in the human female, arise,

First, From the bursting and subsequent filling of a vesicle with blood, as in menstruation.

Second, From partial effusion of blood into a vesicle, either with or without rupture of it.

Third, By re-absorption of the fluid of a morbidly enlarged Graafian vesicle, giving rise to a puckered cyst.

Fourth, From effusion of blood into the tissue of the ovary—the apoplexy of that organ.

Fifth, Tubercular deposits.

Sixth, Cysts filled with yellow fatty matter.

These are to be distinguished from the true corpus luteum by the following marks—

They in general have an irregular form. They want the central cavity lined with a distinct membrane, or the central puckered cicatrix.

They have no concentric radii.

They are frequently numerous in both ovaries."

MEDICINE IN EGYPT.

Dr. Sargent has published in the Dublin Journal* an interesting account of the state of medicine in ancient and in modern Egypt. We shall make a *mem* or two.

Consecration of Parts of the Body to the Deities.—The head was consecrated to Phré, the sun; the eyes, to Hathor or Venus; the left temple, to the living spirit of the sun; the nose and lips, to Anubis; the neck, to Isis; and arms, to Osiris; the genitals to Osiris and the goddess Kopt, &c. &c.

The Moxa in the 16th Century.—They formed a pyramid of cotton wound round with a silken thread, the base was firmly fixed to the skin, and whilst the combustion was taking place, the surrounding parts were preserved from the effects of radiation; the pyramid was made either solid or hollow to modify the eschar. I have been thus particular to show the minute coincidence of their practice with our, I may say recently introduced, mode of applying the same remedy. The diseases, too, in which it was applied are precisely identical with those in which it is now deemed useful.

Diseases of Egypt.—The temperature, the simoom, an insufficient supply of food, its frequently noxious quality, and a degree of filthiness of habit beyond all description, place the mass of the population under physical conditions perhaps more disposing to disease than those surrounding any other people. Under these circumstances we cease to wonder at the relation of the numerous severe affections occurring in Egypt. Ophthalmia, in many and obstinate forms, is all but universal; skin diseases of peculiar malignancy and inveteracy abound; variola has been very fatal in Egypt; putrid fevers and intermittents are frequent; phrenitis of great violence also occurs, so as even to destroy life in a few hours; mania, dysentery, and rheumatism are prevalent, along with several surgical disorders, such as calculus, hydrocele, herniæ, &c.; and, to crown the whole, plague in its worst and most destructive forms. Although the older writers mention severe inflammatory affections of the chest as common in the country, Clot Bey asserts, that Egypt enjoys an immunity from those diseases, as also from consumption; and he even proposes a residence there for patients suspected of phthisis.

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* September, 1841.

To meet this mass of disease the native physicians possess neither the elementary principles of their art, nor even the practical skill of former ages; and the best account of Egyptian practice contains merely a record of gross and frequently disgusting superstitions.

Clot Bey's Introduction of Anatomy into Egypt.—"I summoned to the proposed seminary the best informed of the rising generation, and 100 young Arabs were the first pupils; new difficulties now presented themselves; we were mutually ignorant of each other's language: how then, I said, were the pupils to be instructed? I fortunately succeeded in finding in Paris three persons who understood French, Italian, and Arabic; but these persons were ignorant of medical knowledge. I told them they should become physicians, but that they should first be pupils. I accordingly set them at work on the translating a treatise on anatomy, lessons from which were dictated to the pupils, who were afterwards examined by means of the interpreters; but plates and wax models having failed to communicate the necessary anatomical knowledge, the dissection of the actual subject became essential; but here almost insuperable obstacles were before us, independently of the idea of profanation of the body. The Egyptians have a theological doctrine that the dead feel the tortures to which they may be subjected; the Pacha and the Minister of War refused to undertake the responsibility of sanctioning the practice; at length, however, the chief of the Ulemas, a learned and enlightened man, was induced to *connive* at it; two pupils were induced to begin on detached portions of the body, they were soon cured of their prejudices, and convinced of the indispensability of dissection; in turn they convinced their parents and relatives, who convinced the rest of the people; at length, from mere toleration, we were afforded actual encouragement, and finally, *Ibrahim Pacha and his Ministers of State assisted at a lecture on practical anatomy.*"

Whatever M. Clot's faults may be, and his advocacy of his patron has been carried to a reprehensible extent, he is unquestionably a man of genius.

MR. HAMILTON ON PARTIAL RUPTURE OF NERVES.*

After relating some cases, Mr. Hamilton observes:—In these cases the cause of the injury was pretty nearly similar, the part having been put violently on the stretch; a sense of something having broken was followed by pain, referred to the anatomical position of a nerve, but besides this, parts supplied by branches of a nerve are affected with paralysis of sense and motion, leaving diagnosis of injury of the trunk of the nerve extremely probable. Another symptom of uncommon interest in Essy M'Mahon's case is the alteration in the temperature of the hand. The extreme coldness observed in this case I have seen in many others where a nerve had been injured, and is mentioned by Sir B. Brodie as among the symptoms of local hysterical affections of the joints. It is not merely the sensation of cold experienced by the patient himself, but an absolute diminution of temperature, attended with a mottled bluish appearance, and sometimes an œdematous tumefaction of the part. The coldness is usually not persistent, but alternates with intense heat, which last sensation is infinitely more distressing than that of the cold. The hot alternation appears occasionally to obey certain laws, coming on at two periods in the day as hectic does, viz. about two or three o'clock in the day, and again at bed time. The part is flushed, and sometimes a perspiration breaks out in it, and it literally smokes, the rest of the body being natural.

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* Dublin Journal, September.

BENJAMIN FRANKLIN'S ESTIMATE OF ANIMAL MAGNETISM.

Franklin thus writes to M. De La Condamine.

You desire my sentiments concerning the cures performed by Camus and Mesmer. I think, in general, maladies caused by obstructions, may be treated by electricity with advantage. As to the animal magnetism, so much talked of, I must doubt its existence till I can see or feel some effect of it. None of the cures said to be performed by it have fallen under my observation, and there being so many disorders which cure themselves, and such a disposition in mankind to deceive themselves and one another, on these occasions, and living long, has given me so frequent opportunities of seeing certain remedies cried up as curing every thing, and yet soon after totally laid aside as useless, I cannot but fear that the expectation of great advantage from this new method of treating diseases will prove a delusion. That delusion may, however, in some cases be of use while it lasts. There are in every great, rich city, a number of persons, who are never in health, because they are fond of medicines, and always taking them, whereby they derange the natural functions, and hurt their constitution. If these people can be persuaded to forbear these drugs, in expectation of being cured by only the physician's finger, or an iron rod pointing at them, they may possibly find good effects, though they may mistake the cause.*

I have the honour to be, &c. B. FRANKLIN.

—*Dublin Med. Press*, July 21, 1841.

SPURIOUS OPIUM.

Mr. Mason, at the Meeting of the Pharmaceutical Society, on August 11th, made a report on a sample of spurious opium, which had lately been offered to the trade by a person calling himself a drug broker. It had been sent to him only a few hours ago by Mr. Lescher, and from the experiments which he had made upon it, he had not been able to detect any appreciable quantity of morphia, and but a trace of meconic acid. He thought it possible that it might be a mixture of a very small proportion of bad opium with the refuse of a morphia manufactory. He intended to prosecute his experiments further, but had fully satisfied himself of its entire worthlessness. Mr. Morson hoped that the circumstance would serve as a sufficient example of the impropriety of purchasing drugs of this description from strangers, since those who do so have no reason to complain of any imposition which may be practised upon them.

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* In writing to Dr. Ingenhousz, some time afterwards on this subject, Dr. Franklin said, "Mesmer is still here and has still some adherents and some practice. It is surprising how much credulity still subsists in the world, I suppose all the physicians in France put together, have not made so much money, during the time he has been here, as he alone has done. And we have now a fresh folly. A magnetiser pretends, that he can, by establishing what is called a *rapport* between any person and a *somnambule*, put it in the power of that person to direct the actions of the *somnambule*, by a simple strong volition only, without speaking or making any signs; and many people daily flock to see this strange operation."—*Sparks Life of Franklin.*

The spurious opium, Mr Jacob Bell informs us, was in globular masses covered with leaves, had rather the appearance of Constantinople or Smyrna opium; when cut it was not unlike ordinary dark coloured opium, and had a slight liquorice odour. It appears to become moist on exposure to the air.*

This enables us to introduce to our readers the Transactions of the Pharmaceutical Society, an excellent institution, in its infancy at present, but promising great things for pharmacy. We wish it every success.

MR. FERRALL ON THE ANATOMY OF CERTAIN PARTS WITHIN THE ORBIT.

Mr. Ferrall writes a long paper on this matter.

1. *Anatomy of the Superior Eye-lid—its Continuity with Fibrous Tissues within the Orbit.*

Having placed, says Mr. Ferrall, the eye-lid on the stretch, and fixed it in this position by chain hooks, an incision should be made through the integument, commencing at the superciliary ridge, and extending vertically downwards to the ciliary margin of the lid. In examining the successive layers, those at one side only of the line of incision should be raised, and followed into the orbit; the other half of the eyelid should be left untouched, in order to preserve a view of the section itself afterwards. Having raised the common integuments, and orbicularis muscle, with which every anatomist is familiar, the part which now presents itself is a distinct layer of fascia. When this is followed carefully upwards, it will be found to pass into the orbit, and is the first element of the eyelid which can be traced into that cavity. Within the orbit, this layer corresponds superiorly to the lachrymal gland—the vessels—and the fat which has been described as pervading every portion of the cavity, and to be in contact even with the globe of the eye. Beneath this layer, however, or among any of the tissues between it and the eyeball, no adipose substance is to be found.

The next part which presents itself in this dissection is, the levator palpebræ muscle. The mode of insertion of this muscle, although exceedingly interesting, does not properly belong to the present inquiry. Beneath the levator palpebræ another fascia, similar to the former, is met with. This also passes into the orbit, and uniting at the edges of the levator, with that already described, seems to constitute a perfect sheath for its accommodation and support.

The part next in order is the tarsal cartilage. Tracing this upwards and backwards, we find that its thin or orbital margin is continuous with another fibrous lamina of greater strength and more remarkable appearance than those already alluded to. Following it into the orbit, it will be found to seperate the superior rectus muscle from the globe of the eye, but presenting a well-defined opening, through which the tendon of the muscle passes as over a pulley, to be inserted into the sclerotic coat. The external or orbitar aspect of this fibrous organ is cellular, and will scarcely prepare the anatomist for the very different appearance which it presents on its ocular surface, or that in contact with the globe of the eye. This inspection must, however, be made from the front or corneal aspect of the orbit.

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* Pharmaceutical Transactions, edited by Jacob Bell, No. III.

2. *Anatomy of the Tunica Vaginalis Oculi, and Muscles of the Eye.*

As was before remarked, the inspection must be made from the front or corneal aspect of the eye. The following is the mode which I adopt. I divide both palpebræ vertically, and turning the separated portion backwards towards the forehead and cheek respectively, fix them in this position by hooks; the conjunctiva is next divided at its angle of reflection, where it passes from the internal surface of the eyelid to the ball of the eye. The incision being made, and the edges of the divided membrane separated, the anatomist is at once struck with the inaccuracy of all former descriptions of the parts. Zinn, Soemmering, and all former anatomists, describe the ball of the eye as being cushioned on fat, and in immediate contact with its muscles. Mr. Lawrence, no inconsiderable authority on this subject, and whose opinion may be supposed to represent that of living anatomists, speaking of the anatomy of the conjunctiva, says, "thus, this membrane is reflected from the palpebræ to the whole circumference of the globe, forming a circular fold, which, at the point of reflection, corresponds to the fat of the orbit."

Having, however, separated the divided conjunctiva, we expose, not as has been described by anatomists, a cushion of adipose tissue, but a distinct tunic of a yellowish white colour, and fibrous consistence, continuous in front with the posterior margin of the tarsal cartilage, and extending backwards to the bottom or apex of the orbit, where its consistence becomes less strongly marked. By proceeding in the manner I have mentioned, the parts are displayed without any elaborate dissection. The sharp end of a probe, or director, will be sufficient to separate the ball of the eye from the new organ, by breaking gently the fine cellular tissue which connects them. Its colour is totally different from that belonging to its external surface, and it is here perfectly smooth, where the eye glides over it in its movements. The muscular substance of the recti muscles is no where visible, they lie on the outside of this tunic, which insulates and protects the eye in the most perfect manner.

The most beautiful portion of this mechanism, however, remains to be described. In the concavity of this tunic, and about half an inch posterior to its anterior or orbitar margin, are to be found six well-defined openings, through which the tendons of the muscles emerge in passing to their insertion in the sclerotic coat, and over which they play, as over pulleys, in their course. The tendons are loosely connected to the edges of those apertures by fine cellular tissue, which opposes no obstacle to their gliding movements.

Mr. Ferrall attributes two important offices to this tunica vaginalis oculi—it invests and protects the globe of the eye, and it regulates the direction in which the muscles of the organ shall exert their force. It especially, according to him, prevents retraction of the eye.

3. *Inflammation of the Tunica Vaginalis Oculi.*

In common with fibrous tissues in other situations, this tunic is subject to inflammation and its consequences. It appears also to suffer from similar constitutional causes, and to present analogous phenomena, when it becomes the seat of disease. This may be combined with other affections of the orbit; and it may be the primary affection, and the point of departure from which the diseased action may spread to the other fibrous layers of the orbit, and finally reach the periosteum; and the attack may even be limited to the tunica vaginalis oculi—that it may here produce a train of symptoms of the most dangerous kind, and which have been hitherto supposed to reside in the periosteum, because the existence of other fibrous membranes in the cavity was not suspected. Presuming that there were no other tissues in the orbit, to which to attribute the disease, practitioners naturally referred the majority of cases to one or other of those with which they were acquainted. The solution of such cases would have been less difficult, if our clinical researches were based upon a more correct knowledge of the structures actually existing in the orbit.

Mr. Ferrall relates two cases, for which we refer to our contemporary.

Mr. Ferrall quotes the following passage from M'Kensie, to tack to it an ingenious commentary.

"'It sometimes happens,' says Mr. M'Kenzie, in his valuable work on Diseases of the Eye, 'that the cellular membrane of the orbit does not suppurate. On the subsidence of the acute symptoms, the eyeball in such cases, is found to be deprived of its power of motion, is protruded, or has even become amaurotic from the pressure it has undergone.'

From what I have observed, I am induced to believe, that the real cause of the motionless state of the eyeball in such cases, is adhesion of the globe to the tunica vaginalis, as well as consolidation of the several other fibrous layers which envelop it, and form the thecæ of the muscles. Adhesion of the tunica to the ball of the eye will, it may be supposed, be accompanied by abnormal union of the tendons of the muscles to the edges of the openings through which they pass in the natural state. The rotation of the eye upon its axis will, of course, be impeded in proportion to the interruption to their usual gliding movements."

4. *Abscess between the Tunic and Globe of the Eye.*

When matter is formed in this situation, it may be distinguished from an abscess external to the fibrous tissues, by its pointing in the angle between the ball of the eye and lid. In this case the fold is obliterated, and the conjunctiva is rounded into the form of a tumour.

5. *Tumours within the Tunica Vaginalis Oculi.*

It will often require a good deal of discrimination to decide on the most eligible situation for making the incision for the removal of the tumours from the cavity of the orbit. The displacement of the eye, and the projection of the palpebra, will not always suggest the exact locality of the tumour. The eyelid may be thrown forward in such a manner as to make the practitioner suppose that the morbid growth lay nearer to the orbit than the eyeball, and very little covered by soft parts. If a careful examination be not premised, the external appearances may mislead him, and he may find that his incisions have to pass through a great depth of parts, to remove a tumour which actually lay in contact with the eyeball. Tumours may, in fact, form internal or external to the capsule of the eye, and the mode of operating should be regulated by an exact knowledge of their locality with respect to this tunic.

6. *Extirpation of the Globe.*

When the disease is confined to the globe of the eye, and does not involve the optic nerve or the orbital appendages, Mr. Ferrall suggests the following operation.

The conjunctiva being freely divided, the six tendons may be snipped across with a scissors one after another, where they emerge from the tunic. The eyeball will then be easily detached by a probe or director passed freely around it; when one step alone would remain—the division of the optic nerve. When we recollect that the roof of the orbit is occasionally found to be as thin as paper in some parts, it will appear most desirable to avoid stripping it of its coverings, by operating within this second orbit, or proper fibrous socket of the eye.

CASE OF RETRACTION OF THE TESTICLE TO THE ABDOMINAL RING.

Dr. Murphy, of Liverpool, relates the following case.

August 20, 1838. A foreign gentlman, æt. 30, was suddenly seized with the following symptoms: an excruciating pain in the right groin, increased on the slightest motion of the corresponding lower extremity; a tumour larger than a marble, and sensible to the slightest pressure, is found at the external ring; no impulse is communicated to it by coughing; the testis is absent from the scrotum, a circumstance before noticed.

He is subject to this attack five or six times in the year; the pain continues from ten minutes to an hour, and then suddenly subsides, leaving him perfectly well. When the pain is more severe than usual there is vomiting.

A large dose of laudanum was prescribed, and an exhausted cupping-glass applied over the tumour. The pain ceased in a few minutes, after having continued more than twenty. When the cupping-glass was removed he walked about; the testicle had descended, and the chord, which was larger and softer than usual, felt as if it was varicose, but could not be lessened by pressure either upwards or downwards. A very eminent surgeon considered it hernia; but he had never seen him during the attack.

My impression, says Dr. Murphy, of the disease was, that the testicle was attached to the omentum, by which it was occasionally retracted to the orifice of the ring. A nicely fitted truss was applied over the external ring. Fifteen months have now elapsed without a return of pain. I have a distinct recollection of having read of a similar case, and the sufferer, I think, was the celebrated Zimmerman. If the truss failed in warding off these attacks, he gave his consent to permit me to cut down on the chord and divide the omentum, or even the chord, should I deem it necessary.*

DR. MACARTNEY'S IRRIGATING APPARATUS.

To keep a limb, or part, continually wetted, Dr. Macartney has contrived an apparatus expressly designed for irrigation, by means of which, water of any requisite temperature can be employed, and conveyed to the affected part underneath the bedclothes. The apparatus consists of a box made of zinc, something like a fracture-box, in which either the upper or the lower extremity of the patient may be placed. The water, or a medicated fluid, is carried in a flat tube, which at one end is connected with the reservoir, and the other end projects through a slit in the upper edge of the box. The tube contains a strip of coarse woollen cloth, which is broad at one end and pointed at the other. The broad end is received by the vessel that contains the fluid, and the pointed end either rests upon the dressings of the affected part, or is suspended immediately over them. The water is taken up by the strip of cloth, and carried along it on the principle of capillary attraction, or in the manner of a syphon; and thus a continued supply of water is conducted to the part affected, without inconvenience or exposure to the patient. In order to get rid of the fluid, there is a concave bottom, perforated with large holes, through which the fluid passes into the inferior part of the box, and from which it is conveyed by a tube into any vessel that may be placed outside the bed for the purpose of receiving it. The perforated bottom, for the sake of cleanness, is made to take out; and there is a soft cushion, covered with painted linen, on which the limb rests, and consequently the whole is not kept wet.

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* Dub. Journ. July, 1841.

The quantity of fluid which may pass can be regulated by placing the vessel or reservoir containing the water either higher, or on the same plane as the patient's bed. If placed high, so much as three gallons of fluid may be supplied in the course of twenty-four hours. If warm water be required, as in cases of strains and lacerated wounds, the temperature of the reservoir may be kept up by means of a spirit lamp.

The irrigating machine is made and sold by Messrs. Weiss and Son, instrument makers, 63, Strand, London.

CROTON OIL IN NERVOUS DISORDERS.

Mr. Cochrane has communicated some cases to the Edinburgh Monthly Journal,* illustrative of the virtues of croton oil. We shall select one.

"In December 1839, I was called to attend a female patient, whom I found in bed completely prostrate, and apparently insensible to every thing around her. In fact she was completely comatose,—her pupils were greatly contracted, her pulse could scarcely be felt, and, in fine, she seemed all but sunk into the sleep of death. The remedy which I employed in this case was the croton oil, in combination with mucilage and castor oil, thus proportioned:

℞. Ol. Tiglii, gtt. viij.
— Ricini, ℥iij.
Mucil. G. Arab. ℥i. Misce bene.
Sign. Enema. To be administered in a quart of gruel.

Though I employed the above potent remedy, I must say, I scarcely expected any good to result from it; but to my great joy and satisfaction, it had a most beneficial effect upon the patient, not by producing an alvine torrent, but by occasioning a very copious discharge from the bowels per anum, as well as from the stomach, by vomiting, together with a return of sensation and motion, and the use of her mental faculties. Indeed, the effect of the medicine was truly astonishing, for when I left her, she seemed all but dead. On my second visit, only a few hours afterwards, she was able to sit up in bed and converse with those around her."

It appears to us that cases of this kind are reported too loosely, to afford as much assistance to practical medicine as they might. Nothing is said of the state of the bowels prior to the administration of the croton oil. Yet it is clear that their condition must exercise a paramount influence on the prospects of advantage from the remedy. Such a state of nervous system, as obtained in the case related, *might* co exist with relaxation of the bowels, as well as the reverse, with an irritable state, forbidding purgation and purgatives, as well as with one demanding them.

ELATERIUM AND AMMONIATED TARTRATE OF IRON IN CHOREA.†

Mr. Wardleworth thinks that the indications for treatment in chorea, are, 1st, to unload the bowels, if a torpid condition of them exists; and, 2dly, to restore the tone of the stomach and intestines. The purgative formula which he has found most efficacious is the following:—

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* July, 1841.

† Ibid.

℞. Ext. Elaterii, gr. j.
Pulv. Jalapæ, gr. xxxvj.
—Zingib. gr. xxiv. Misce et divide in chart. xij.
capt. j. quarta quaque horâ donec alvus soluta fuerit.

After the bowels have been fully acted on, he prescribes that important therapeutic agent, the ammoniated tartrate of iron,—a remedy which, though little known, still possesses chalybeate properties superior to any other preparation of iron, with the exception of the magnetic oxide. Its pleasant taste, and perfect solubility in water, render it exceedingly agreeable even to the most fastidious.

He commences by giving three grains three times a-day (in quovis vehiculo,) the dose to be gradually increased to five grains, which will generally be found sufficient to subdue the disease, care being taken at the same time to keep up a free action of the bowels, combined with a light yet nutritive diet. Free exercise in the open air, after the disease appears to decline, is essential to the patient's perfect recovery. From a fortnight to three weeks is about the average time required by the proposed treatment to subdue the worst forms of chorea.

TREATMENT OF TROPICAL DYSENTERY.*

Dr. Lewis, of Leith, has contributed a paper on this subject to our Northern contemporary: the paper will repay perusal. The gist of it—the treatment recommended by the author—we extract.

If, from any circumstances, the symptoms at their outset have been neglected, blood-letting, topical and general, is most imperatively called for. If pain increased on pressure, furred tongue, and other evidences of inflammation exist, no more potent remedial measures can be employed, but if such symptoms be absent, as they will be in the great majority of instances in the early stage, they are unnecessary, and will generally be found to produce no decided immediate relief to the tormina, tenesmus, and diarrhœa, the three most distressing symptoms. After blood-letting, three grains of opium, combined with large doses of calomel, are usually administered, and small opiates and starch injections are frequently employed. Of these, and particularly of the enemata, Dr, L. speaks in the highest terms, having found them to produce much greater relief than the blood-letting. Occasionally it relieved for some hours the urgent symptoms, and even where such success did not attend its employment, and where, from the irritability of the rectum, it was soon discharged, the tenesmus was often considerably mitigated. The introduction of the pipe sometimes however produced irritation, and occasionally forced the patient to stool. The large mucilaginous injections of the Continental School are justly reprobated by our author. Dr. Lewis thinks full purgative doses of sulphate of magnesia, or castor oil, often hazardous and inexpedient in the early, though beneficial in the later stages. The diet should be strictly antiphlogistic; rice water used lukewarm is perhaps the best thing the patient can take. If leeches be applied, either for inflammation on the liver or intestines, the patient should be strictly protected from cold during the operation. The entire class of astringent remedies, so useful in the diarrhœa of Europe, act as irritants, and are wholly inadmissible.

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*Edinburgh Monthly Journal, July, 1841.

Ipecacuan and various other remedies have been much lauded by men of the greatest experience. Dover's powder is undoubtedly serviceable, particularly if the disease becomes chronic, and the same remarks apply to the terebinthinate liniments. A warm and equable temperature is of great importance in the cure of this affection, and warmth to the belly ought constantly to be applied. This treatment, which was the one I first adopted, proved tolerably successful. The pain was lessened, inflammation warded off, the tenesmus and tormina were relieved, and the stools became less frequent. The quantity of opium and calomel used during the progress of the disease is sometimes very considerable, though it is by no means necessary to induce salivation to effect a cure. During the early part of his convalescence, the patient is very desponding, haggard, hypochondriacal, and very weak. He is very restless, there is great want of tone in the digestive organs, and an aching void is complained of in the abdomen, to relieve which, Battley's sedative liquor at bedtime is a most excellent remedy. It calms the nervous system, procures undisturbed sleep, and acts as a tonic, and is unquestionably to be preferred to any other preparation of opium. The diet should at first be strictly farinaceous. Laxatives are now required, and as castor oil even in small doses sometimes acts violently, and always increases the derangement of stomach, rhubarb is a preferable medicine. The improvement is frequently very slow, the greatest care being requisite to prevent errors of diet, and the abdomen should be well protected by clothing from vicissitudes of temperature. If at this stage there should be signs of subacute inflammation in the abdomen, leeches must be perseveringly applied, and subsequently, as a safeguard, an eruption should be excited by an ointment composed of one ounce of axunge, half a drachm of the tartrate of antimony, and five grains of the bichloride of mercury,—the eruption being kept out for several weeks. In severe cases of dysentery, complete recovery often takes place very slowly; the digestive organs are much weakened, diarrhœa comes on from the slightest causes, and occasionally for months there is a slight discharge of blood along with the stools, which all the remedial measures you may employ are unable to check, and which is at length cured by change of air. The rapid recovery which takes place when the patient is restored to his native climate, is frequently most surprising and gratifying.

But Dr. Lewins, praises another method as superior to the foregoing. It was that pursued by Dr. Heyn at Java. His treatment consisted in administering, at the very outset of the disease, a scruple of the chloride of mercury. According to his experience, this powerful pharmaceutical agent, when employed in small doses, acts as an irritant, but when given in large quantities, has so decided and immediate an effect, as to merit the name of a direct sedative. I have seen soldiers brought into hospital in the most severe agony, discharging mucus and blood at very short intervals, and labouring under the most aggravated form of the disease. On administering a scruple dose of calomel, the most marked and gratifying amelioration took place. The tormina, tenesmus, and diarrhœa almost instantaneously cease, a feeling of comfort takes the place of the most intense suffering, the countenance brightens up, the pulse, heat of tongue, and thirst, when present, are diminished, and in short all the distressing symptoms are much alleviated. This remission is, however, often followed by an exacerbation at the end of six or eight hours. Re-action is established, the pulse beginning to rise, and, if no steps are taken to prevent it, the whole train of symptoms return with almost undiminished violence. If the diarrhœa and tenesmus come on, no hesitation need be felt in repeating the scruple dose of calomel, but if the physician be on his guard, he may often prevent this, by active measures whenever the tormina and borborygmus are apparent. This is the critical moment, and a scruple of calomel divided into four doses, administered every three hours, will often prove sufficient to prevent re-action, and overcome the disease. If the malady be obstinate, five grains of calomel should be given boldly every three or four hours, and under this treatment the medical man will seldom be disappointed. When the bowels have been quiet for thirty-six hours, a scruple of the powder of rhubarb was found to be most serviceable. The stools which followed were fetid, dark-coloured, fluid, sometimes bloody, but voided with little or no pain. If symptoms of inflammation appeared in any of the abdominal viscera, which rarely happened, leeches were used; but a blister was almost invariably applied to act as a safeguard, and to relieve the remaining irritation in the intestines. The superiority of this treatment over the other is, he thinks, unquestionable.

EXTRACTION OF FOREIGN BODIES FROM THE EAR BY SYRINGING WITH COLD WATER.*

Mr. Carpenter, of Castlecomer, thus writes to our Dublin contemporary: The first case brought to me, some years back, was one in which the foreign body was a garden pea, which, as is usual, was pushed in as far as the tympanum by the interference of the child's friends. The instrument I selected was a very small forceps with blunt points, with which I could catch the pea, but could not move it, and, endeavouring to do so, caused intolerable pain. It immediately occurred to me to inject cold water with force, in order to at least displace the pea, and perhaps thereby to render it more manageable—I did so with a two ounce syringe, and found the pea so far displaced as to lie at the orifice of the meatus, whence I removed it without further trouble or pain to the child. Since that I have extracted many peas in the same way—in some instances they have lain at the orifice, and in others been forced out completely. So far I was satisfied that peas could be removed by the above method, and will admit that I felt anxious to have an opportunity of trying my hand on something of more difficult extraction. About six months back that offered—the substance was a pebble of a most irregular shape, and so large that I was surprised how the child could have borne to introduce it—the meatus was not inflamed; but the pebble was so far in, and so wedged in its place, that to touch it ever so lightly with any instrument, was almost enough to throw the child into convulsions. I almost despaired of succeeding with the syringe, but made the trial, and not having a two ounce one at hand used a pint one—the first injection failed; but, while using a second, the pebble, much to my satisfaction, was forced out on the napkin held under.

In the last case brought to me I could hardly feel the foreign body with a silver probe, nor could the child's parent tell me what it was: however, knowing it to be small, I used a small sized syringe, and by one injection had a grain of oats at the orifice of the meatus.

MR. DONOVAN'S IMPROVED METHOD OF PREPARING VINUM FERRI.†

Take of the best hock one pint; common rust of iron of the shops, well levigated, two ounces. Introduce both into a matrass, which plunge into a water bath maintained at the temperature of 100°. Constantly agitate the matrass for an hour; then remove it from the water, and the next day filter. The colour of this vinum ferri is a very deep greenish brown, almost black when the volume is great: its taste is ferruginous, agreeably and highly vinous; it produces a pleasant warmth in the stomach, and never sickens. In its effects it must be tonic, diuretic, emmenagogue, anthelmintic, and carminative. It does not, in a moderate dose, excite.

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* Dub. Med. Press, June 30, 1841.
† Dub. Med. Press, June 23, 1841.

No other wine than hock will afford a preparation possessing these virtues. The dose for an adult may be three or four drachms thrice a day; in smaller doses, it is of little use. If it is to be exhibited in combination with a bitter, it agrees well with colombo or gentian.

By this method, in one day, we obtain a far better preparation than is procurable by the processes of the pharmacopœias in two months. The iron exists in it chiefly in the state of protoxide.

ROYAL COLLEGE OF SURGEONS IN LONDON.

The Council proposing to publish, in the course of the ensuing year, a Volume, to be entitled

" *Transactions of the Royal College of Surgeons in London*,"

invite, from the Members of the College and other scientific persons, communications relating to the improvement of anatomical and surgical Science.

The subjects proposed to be included in this Publication are specified in the following extract from the Ordinances of the College:—

" The Transactions shall consist of

Original Communications on Surgical subjects.
Collegial and Jacksonian Prize Dissertations, deemed of sufficient originality and merit.
Original Memoirs on Human Anatomy.
Original Memoirs on Comparative Anatomy.
Anatomical Monographs of rare Animals, dissected in the Museum of the College.
Explanations of, and Commentaries on, important Preparations in the Museum, with illustrative Plates.
Statistical Reports from Hospitals."

It is requested that Papers intended for publication in this Volume may be transmitted to the President, at the College, on or before the 1st of May, 1842.

EDMUND BELFOUR,
Secretary.

28th July, 1841.

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EXTRA-LIMITES.

CHUSAN.

[Communicated by Sir W. Burnett.]

Extract from the Nosological Return of H. M. Ship Volage, between the 1st July 1840, and the 30th September 1840.

On the 28th July, we arrived at the new British possession, on the coast of China, "Chusan"—an island situated in the 30th degree of North latitude, and about 9 or 10 miles from the nearest part of the main land of China. It had been in the possession of the British since the 6th of the same month.

The capital town of the island is named "Ting-Hae," about an English mile from the sea-side. There is a small suburb close to the shore, between which and "Ting-Hae," country intervenes, flat, intersected by canals, and overgrown with rice and millet seed. Ting-Hae is also built on a portion of this flat—and the flat extends from it, in every direction, towards the country three or four miles; except two isolated spots, where the ground is naturally raised, the whole of this flat is so far below the level of the sea, that even the roofs of the houses are not to be seen from the deck of a frigate. The part where the suburb is built is somewhat higher, and forms an embankment against the sea, formed, I have no doubt, by the hand of man, but cemented into the appearance of nature by long lapse of time, and the numerous embankments pervading many parts of the neighbouring islands bear me out in the statement—so that I am satisfied the sites of Tang-Hae and the adjoining country have been, in some remote period, cut off from the sea.

In the month of July the country was in the height of cultivation in its various stages—no barren spot to be seen. At a short distance, the view of the country was like a vast collection of garden-grounds.

Much of the soil of the flat around the town was artificial, and in its then moist state had been evidently lately flooded by a most perfect system of irrigation, so that a stick penetrated this soft and rich soil to the extent of 14 or 15 inches.

Ting-Hae itself is a most wretched town, occupying a circuit over three miles, surrounded by a wall built of stone and brick about a foot and a half thick, inside of which is a mound of earth, supported in its outer circuit by the wall. On the inner side, this mound forms a slope, with a plain on the top. The wall then ascends forming a parapet, breast high, in which are numerous embrasures for matchlocks and archery, and a few longer ones near the gates for guns—a few also of which, old and honeycombed, were fixed there, secured on wooden stands, such as are used in England to rest porter casks on. The height of the wall in its outer circumference varies from 25 to 15 feet, in many parts dilapidated. The houses are low, none higher than the wall. Attached to each house is placed, without regard to decency, a necessary-house—in some parts two or three to each, all open and exposed. The streets are narrow, paved on either side, and in the centre is a gutter covered by a flag stone, ill-concealing either the smell or view of subjacent filth, now disgusting to look at, and perfectly nauseating by its stench. Every house was also provided with one or more immense earthen jars, also receptacles for filth and excrement in its more fluid form. All these things, taken in connection with the surrounding soil, prove that manure of every description was carefully preserved, the ingredients for which were, though then in an incipient stage, fearfully, as far as health was concerned, abounding and rapidly decomposing. Exuberant vegetation was already shooting from the muddy banks of the canals; and, even in the midst of the stagnant waters of which, was also to be seen some show of it. All this of course, unless provided against, was rapidly to end in rottenness. The thermometer was varying from 84° to 94°, and the atmosphere was, in the more confined and less ventilated parts, already sensibly loaded with deleterious effluvia, which the shockingly pent-up position and arrangement of the town rendered it difficult to dissipate.

In whatever part of the town one turned, the decomposition and consequent stench were offensive. If, in three weeks of July, such was the state of things, what must August and September produce? Without some great change, surely epidemic and contagious disease; and such has been the fact. That the state then existing should be changed, there can be no doubt, though the mode of doing it admits of some. At least before leaving "Ting-Hae," I saw people attempting to cleanse the town in a manner which I should not have done. I saw them clearing some of these sinks of filth, with the water still in them, which I think must tend to further putrefaction.

The sickness (intermittent fever and dysentery) among the troops has been very great, and mortality to a fearful extent is now among them. Fever and dysentery have also pervaded the fleet, which certainly cannot be attributed to the causes above enumerated.

I do not consider that extensive sickness is ever, or hardly ever, to be attributed to one sole, isolated cause, and I believe that the sickness now at Chusan is not to be attributed to those causes above (bad as they are) alluded to.

That low swampy grounds, such as these, produce intermittent fever, one need not come to Chusan to be assured of; but we have frequent assurances that exhalations from putrid and corrupting matter may be dwelt among without endemic and widely-spreading fatal dysentery. The same disease pervading those both on shore and on ship-board, may be attributed to the same causes, many of which were common to both services. The water, for instance, with which we were both supplied for the first weeks after the occupation of Chusan, was decidedly bad; it was procured among the swampy ground, smelt badly, and had a rotten putrescent taste.

The evaporation from the decomposing manured rice-grounds, spread through some cnosiderable space of the atmosphere, so as to affect numbers within its influence more or less.

The climate was new to all—so far the causes were common to both services. Those on shore were of course, from their proximity, more liable to feel the effects in a far more intense degree than those on ship-board, and more remote; and besides these causes, to those on shore, were to be superadded to others. The supply of fresh provisions to the troops was scanty and bad, and even the salt meats, both beef and pork, were so bad as to be considered unfit for use.

Again, on taking possession of Chusan, one of the most abounding things there, was "sam-shee," an ardent spirit procured by fermentation from rice and millet-seeds, more generally the latter. This is a most deleterious spirit; its effect in producing drunkenness is most rapid, and the drunkenness produced by it, is attended in the first degree with furious madness, and afterwards with corresponding depression, or rather horror, and almost invariably leaving a low fever of some days' duration after it. This spirit, I much fear, was used by the troops to a very unmeasured extent. The sailors had not the same opportunities.

Another cause acting on those on shore, which we had not, was independent of the noxious effluvia, the confined and ill-ventilated situation of the town.

Their duties were not, I should say, so heavy as those on ship-board.

I have gone thus far out of the direct path of the immediate state of the health of the ship's company, as I think it is probable the general state of health of the force may become a matter of public importance in England, and my having been on the spot, and knowing personally of all the circumstances I have narrated, may render such detail, Sir, agreeable to you. The climate of the Chusan Islands, I should say (remove the causes given above), is fine and healthy. The Volage left the Chusan Islands on the 1st August to proceed northward on the Coast of China *to* the gulf of Pe-chili-li. The highest latitude we attained, was the 40th degree. Along the coast we had the weather generally fine, and temperate, the thermometer varying during the period (August and September) from 60° to 78°—these being the extremes—the average 72°. The winds along the coast hung steadily to the southward and westward and the entrance of the gulf —this being the direction of the regular monsoon: and though the monsoon is said not to extend beyond the 28th degree of latitude, yet the period of July or August has been always selected to make the passage up to the Gulf of Pe-chili-li, and in the few trials that have been made, the southerly winds have invariably blown home to the entrance, while, on the other hand, the passage down again to the South, has been always made with a favorable or North wind between the close of September and April, that is, during the period of the northerly monsoon. We returned at the close of September and found it so.

The squadron, which proceeded to the gulf, consisted of the Wellesley, with the flag of Admiral Elliot, the Blond, Volage, Modeste, Pylades, a steamer and two transports. In all these ships, except ourselves, abdominal disease prevailed extensively—in some instances assuming the dysenteric form, and fatal.

I saw one of these cases, the second Lieutenant of the Modeste. He was, when I saw him, so far advanced as to have no hope, and died in a few days. I attended a post-mortem examination of the body. Inflammation of the mucous coat, from the stomach to the rectum, with its effects from the first stage, to perfect gangrene existed. The liver was pale, otherwise healthy. It was a pure case of dysentery.

He, with Lord Joceylyn on board, who filled the office of Military Secretary to the Admiral, happened to be under my care. Lord J. had a complicated form of disease—very severe intermittent, but which only existed as a secondary disease. He had decided congestion about the liver—dysentery intermitting with a very confined state of the bowels—a great appetite alternately with loathing of food. I attacked the liver first, deeming that the root of the disease lay there. Had 30 leeches on with good effect, and slightly touched him with mercury: after which, tonics did a great deal. He left the ship pretty well; but when he got any thing well, he was so very careless, that he had frequent relapses. I recommended him strongly not to remain in the Tropics, and he has been since invalided.

The Nosological Return shews 36 cases of abdominal disease, and indeed those cases under the head of Fever had generally also some determination to the visceral organs. None of them were marked by any peculiar severity, and all now are doing well.

I had also under my care a Chinese, the master of a junk, who was shot by one of our seamen. The master had made a complaint of the seamen for pillaging on board the junk—the seaman belonged to a boat, which boarded and detained the junk. The officer of the boat threatened to complain of the seaman—the seaman took a loaded musket and fired at the Chinaman, who was distant from him six yards; the ball took effect on the head, struck him about the site of the posterior inferior angle of the parietal bone on the right side, penetrated the bone, passed directly through the brain for the space of about two inches, and passed out again through the vitreous portion of the temporal bone. I saw the man half an hour after the injury; he was quite insensible, with dilated pupil; on re-action setting in, I took blood from the arm, during the abstraction of which, he began to show signs of consciousness. The wound, at either end of which were portions of brain coming away, I lightly dressed with simple dressing and cold wash, gave smart cathartics, and enjoined perfect quietude. He was able to be up and walk about in two days, and, in three days, was removed on board the Volage (we being ordered to sea). We got into a gale of wind, the deep rolling of the ship hurt him much, and he was unable to rest in a cot—I tried him, but he rolled out. After this he began to sink, and expired twelve days after the injury. He was conscious to a couple of days to his death.

I have had another, and almost equally extraordinary injury of the skull, only with a different result, as he is doing, and likely to do, well. Mr. Olive, the second Master of the ship, while in a gale of wind lying at anchor, was attending the compressor in veering cable. In bringing to to check the cable, the tackle gave way, the non-compressor recoiled with tremendous force, and in its sweep, struck Mr. Olive on the left temple. He was thrown, insensible. I saw him immediately, and found a depression big enough to put one's fist into, deep as an oyster-shell. There was no external wound; tumefaction coming on, convinced me some of the large temporal branches were ruptured. Without waiting, I instantly took 40 ozs. of blood, which checked further effusion. He lay insensible five days—is now up and able to walk about—his intellect changed, but I think *not much deteriorated*—the tongue, right hand, and arm partially paralysed. I purpose invaliding him and giving him a certificate for the wound.

I have the honor to be, Sir,
Your obedient humble Servant,
B. VERLING, Surgeon.

PLAGUE IN A BRITISH MAN-OF-WAR, NOT CONTAGIOUS.

Admiralty, 26th April, 1841.

A CIRCUMSTANCE has occurred regarding the health of two ships in the Mediterranean Squadron of so unusual, and I may add, unexpected a nature, as will I hope justify me in bringing it under the notice of the Board of Admiralty.

It is known to their Lordships that the Zebra was driven on shore in a gale of wind at Kaiffa on the Coast of Syria on the 2nd of December last, and the crew having been enabled to land, were lodged in the town, which is described as being most filthy with all kinds of abominations; it was not however known that any febrile disease prevailed at Kaiffa, but several cases of plague appeared at Acre, at a little later period:—some part of the crew were afterwards employed in assisting to repair the fortifications at St. Jean d'Acre, where, the surgeon states, "they generally enjoyed good health, with the exception of a few cases of fever, two of which appear to have died with malignant symptoms;"—previous to this, however, there had been ten cases of continued fever in the Zebra, while on the other parts of the Coast of Syria, all of which recovered. and like the other ships of the Squadron, nine or ten had been attacked with dysentery, one of which died.

On the 17th February the Castor arrived at Kaiffa with orders to break up the Zebra, and embark her crew. The Castor had in like manner previously suffered from fever and bowel complaints, but not to any extent, and only one death had taken place from the latter disease.

On the 29th February, fourteen men belonging to the Zebra were sent on board the Castor in exchange for a party of artificers, and about five days previous to this, the party employed at St. Jean d'Acre returned to the Zebra.

On the evening of this day, William Thomas, a seaman belonging to the Zebra, who had been employed in the boats at Acre, was attacked with fever, and died on the afternoon of the 22nd, and between that day and the 25th, thirteen more cases were added, including an artificer from the Castor. The whole of these, with the exception of Thomas, who died previously, were immediately removed on board the Castor. The remainder of the crew were embarked on the following day, when the Castor sailed for Malta.

The disease with which the men sent from the shore had been attacked, now manifested unequivocal symptoms of Plague, and every means was used to prevent intercourse with the healthy, eleven men being selected to attend solely upon the infected persons.

It is satisfactory to state that not one of these men were attacked with Plague, nor were any of the Castor's people, except the artificer, who had been landed and lived with the Zebra's men at Kaiffa, though there were at least twenty-four persons, including four medical officers, fully exposed to the contagion during its continuance on board the Castor.

In addition to the usual symptoms of a highly malignant fever, which need not be recited here, these men had all glandular swellings in the groin or axilla, and one had carbuncle, which sloughed extensively, and several of the buboes suppurated.

I beg to add the two first Cases, shewing the progress and symptoms of the disease.

Kaiffa Bay, 22*nd February.*

John Barry, first class boy, aged 19, complained this morning of severe headache, burning heat and dryness of skin; eyes watery and dull; countenance depressed; great languor and listlessness, and a disposition to lethargy, with some confusion of ideas; indistinctness of memory, and hesitation in answering questions; prostration of strength, and pain in the back; tongue white and dry in the centre: pulse 100, rather full; says he was taken ill last night.

23*rd*. Passed an extremely restless night; great prostration of strength; countenance more lively and less lethargic; there is an enlarged gland in the upper part of the thigh, the pain of which he complains greatly of; it is painful to the touch, but there is no external inflammation; pulse 100, irregular and easily compressed; tongue dry in the centre, with two fervid streaks on each side; towards the apex there is a small shining spot, about the size of a shilling, which has the appearance a red conjested part has, the moment blood has been pressed from the cutaneous vessels.

P. M. The pain in the groin is his great source of complaint; there is decidedly less stupor and lethargy, and his ideas are now quite collected; eyes watery, but expressive; pulse small and thready; occasional vomiting.

24*th*. Moaned a great deal in the night; complains very much of the bubo, which is slightly enlarged; the skin has become softer and the tongue moist, and he is perfectly collected and sensible. From this time the pulse gradually became weaker, and soon after 2 P. M. he was attacked by convulsions, then became comatose, and expired about a quarter before three o'clock.*

CASE 2nd.—John Terliven, carpenters' crew of H. M. S. Zebra, aged 29, was taken ill on the evening of the 22nd February, complaining of headache, slight pain of the back and limbs, with great weariness and prostration of strength, stupor and lethargy, with inclination to sleep, and impatience when aroused, answering questions in an abrupt manner; in short, there appears an utter indifference and apathy to everything around him. Eyes suffused, pupils natural; skin dry and harsh, but no supernatural heat; thirst; tongue smooth, dry in the centre and tremulous, having the peculiar appearance described in the last case; pulse 100, small and irregular; the symptoms were preceded by shivering.

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* This lad had returned from St. Jean d'Acre on the 12th February, and had attended a sick messmate who died that day under suspicious circumstances.

24th. There is less stupor, and he says he feels better; tongue moist; skin softer; pulse irregular; a bubo was discovered in his left groin, or rather in the upper part of his thigh.

25th. Last night the symptoms in general appeared more favorable, and he expresses himself better, and he has recovered from the state of lethargy. There is, however, a peculiar and indescribable appearance of anxiety about him; bowels rather relaxed, but he has the appearcnce of increased strength.

The pulse became weaker and was not distinguishable at the wrist for some hours before death; stimulants had not the smallest effect on the pulse, and, about an hour before he expired, he drew attention to his feet, which were cold and damp; he said he felt dead as high as his knees, and soon quietly departed, the bubo remaining stationary.

I beg to annex on the other side, a List of those attacked, with their commencement and discharge.

The preceding Narrative and Cases are taken from the Official Reports of the Surgeons of the Castor and Zebra, and I beg to add that I have purposely forborne to make any comments thereon, being convinced that the facts are of too important a nature not to command attention.

W. BURNETT,
Inspector-General, &c.

The Secretary of the Admiralty.

Commencement	NAMES	Age	Quality	Diease	When taken ill	Of wha Ship	If employed at Acre for the entire period or occasionally in Boats	Date of discharge into Castor	Died	Duty	Convalescent
1841 Feb. 2	John Barry .	19	Boy	Pestis	On Castor	Zebra	At Acre all the time	0th Feb.	24th Feb.—at 4 a.m.		
. .	John Terlevin .	29	Capt. Crew	Pestis	On Shore	Zebra	Do. ne rly all the tim	22d ,,	25th ,, at 10th. 30m. a.m,		
. .	Edward Epps .	17	Boy	Pestis	On Shore	Zebra	At Acre in Dec. last	22d ,,	24th ,, at 11 30 p.m		
. .	Thos. Chaplain	20	Ord.	Pestis	On Shore	Zebra	At Acre all the time	22d ,,	. . . .	Duty	
. .	Wm. Powell . .	. .	Artirficer	Pestis	On Shore	Castor	Artificer landed from Casto	22d ,,	17th Feb.—at 3 a.m.		
23	Stwt. Robertson .	37	Rl. Marine	Pestis	On Shore	Zebra	Not at Acre	23d ,,	. . . .	. . .	Convalescent
. .	John Roberts .	38	Qr.-Master	Pestis	On Shore	Zebra	Occasionally in boats at Acr	23d ,,	26th Feb.— at 7h. 30m. a.m.		
. .	Henry Boyd .	16	Boy	Pestis	On Shore	Zebra	At sea all the time	23d ,,	. . . .	Duty	
. .	Geo. Campbell .	23	A. B.	Pestis	On Shore	Zebra	Occasionally in boat	23d ,,	2d Mar.— at 9 a.m.		
. .	T. Knight . .	24	A. B.	Pestis	On Shore	Zebra	Ditto ditto	23d ,,	26th ,, at 7h. 30m. a.m.		
25	John Cranfield .	35	Qr.-Master	Pestis	On Castor	Zebra	All the time at Acre	. . .	8th ,, at 6 a.m.		
. .	William Lambert	20	Boy	Pestis	On Castor	Zebra	Ditto ditto	. . .	7th ,, at 4 15 a.m.		
. .	Willliam Cook .	22	Rl. Marine	Pestis	On Castor	Zebra	Not at Acre	. . .	. . . .	Duty	

Note by the Editors.

If anything stronger than this Document can be necessary to prove the idle fears of contagionists, it must be a sign in the sky like that which Constantine shaped his course by!!

NEW HYDRAULIC MACHINE.

We have seen the apparatus to which the following letter refers, and think it is a most ingenious invention, and well calculated to answer the objects for which it is intended.—Editors.

Ipswich, September 15*th*, 1841.

Dear Sir,—In your last, you asked me how your New Hydraulic Machine is approved of at the different hospitals. I shewed it at Cambridge Hospital to the house-surgeon and several others of the profession—they all expressed themselves astonished with its powers: next I produced it at the hospital at Bury St. Edmunds, and at the house of Dr. Hake, before Drs. Smith, Probett, Rev. Mr. Hastie, and several others of the committee—they will order one immediately you can send them testimonials of its approval by the Humane Society. At Norwich, Yarmouth, and at this place, all concur in approving of the instrument. Dr. Forbes, of Norwich, says, that not an hospital in England, or a ship in Her Majesty's service, should be without one.

It will be useless for me to proceed farther at present, as the sanction of the Royal Humane Society must be obtained before you can get orders.

I am, dear Sir,
Your's, &c.
H. PUTLAND.

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INTELLIGENCE.

Dr. L. Koecker.

The degree of Doctor of Dental Surgery has been conferred on Dr. Leonard Koecker, of Conduit Street, by the Baltmore College of Dental Surgery.

The following are the data upon which the proof of the connexion of diseased mucous follicles with the peculiar effects of a morbid poison upon the biliary excretion, may be rested.

1st. It may be considered as admitted, that the special characters of substances fitted for assimilation are absence of active chemical qualities, and the capability of yielding to transformations; and that every substance may be considered as nutriment, which loses its former properties when acted on by the vital principle, and does not exercise a chemical action upon the living organ.

2ndly. That in the progress of the functions of nutrition, certain chemical and organic substances are produced, and from time to time are present in the blood: which products it is the office of the different excreting organs to discharge from that fluid,—the relative activity of these organs depending partly upon the matter to be eliminated, and partly on other circumstances; thus we have seen that, in one situation the lungs assume a disproportionate activity, in others, the liver, &c.

The foregoing propositions being admitted, the following may be regarded as convertible from them. If substances be introduced into the blood which are *not* capable of assimilation or of affording nutriment—whether from their chemical qualities or from their condition (of decomposition)—it will follow that, instead of these suffering the transformations which food undergoes to become assimilated, the blood will undergo their transformation and disease will be produced.

Also, that numerous modifications in the composition and condition of the compounds, produced from the elements of the blood, may be the immediate results of the introduction into it of these substances, and a change in the quality of the excretions may thus be the first indication of the action of the poison, as well as of the effort made to expel it.

Numerous facts and observations tend to shew that, in the case of organic or putrid poisons, the *liver* is the organ by whose excretions an attempt is made to rid the blood of the new products thus formed in it.

As first—by a reference to the experiments of injection of putrid pus, &c., into the veins of animals, performed by Magendie, Gaspard, Cruveilhier, &c., it will be seen that when the animal recovered it was after copious discharges of a vitiated character from the bowels; to these discharges the last-named writer attributes the recovery, and adds, that it is a fundamental fact of pathology that the intestinal canal is chiefly affected in diseases caused by miasmata.

Again, if we refer to the published cases of poisoning from putrid ingesta, we see that, besides those of irritant poisoning in which the rapid rejection of the substances was followed by recovery, there is another class in which, after an interval allowing of the absorption of the poison into the circulation, a different set of symptoms followed, as in the following from Dr. Christison's work on poisons:—"A family of five persons took for dinner broth made from beef, which owing to its black colour the master of the family had previously said to his wife he thought bad and unfit for use.

In the course of some hours two boys were attacked with sickness and vomiting, but appear to have got soon well, probably from the early discharge of the poison. Next morning a washer-woman, who had dined with the family, was seized with violent *pain in the bowels*, *diarrhœa*, *racking pains*, *and weakness in the limbs*, and did not recover for ten days. On the evening of the second day the master of the house was similarly affected and was ill for a fortnight. And a day later, his wife was also seized with a similar disorder, preceded by soreness of the throat and tongue and difficulty of swallowing, and ending fatally in fourteen days."

It is worthy of notice that the severity of these cases was in proportion to the interval allowed for absorption of the poison—altogether their resemblance to the description of the symptoms of typhoid fever, quoted from Louis, is remarkable. If we enquire why the mucous glands of the lower portion of the ileum, are more than other parts of the intestine liable to suffer from this peculiar derangement of the biliary excretion, we shall see reason to think the cause is the same as would explain their existence in greater number there than elsewhere, and that this is probably owing to the fact of a second digestion or chymification being performed in the cæcum, during which, it is believed by some physiologists,* that the entrance to the large intestine is closed, and bile collected in the lower portion of the small intestine, which does not enter the cæcum till the secondary chymification is completed. The effect of such a retention of an acrid and depraved secretion must be obviously to produce irritation in the part subjected to its influence, and the same deranged products of secretion, continuing through much of the duration of the fever, we can account for this affection not seeming to be limited to any portion of that period, but why commencing with it,—frequently even preceding it, it ordinarily survives the continuance of the most prolonged disease.

This explanation also accounts for the disease in these glands being found farthest advanced nearest to the termination of the intestine—for perforation occurring almost invariably close to the cæcum—for the lymphatic glands of the mesentery, corresponding to the diseased follicles, becoming diseased—and for the severity of these affections bearing a direct proportion to the severity of the fever, and, as it would appear, to the amount of the poison imbibed into the system.

This view of the relation of diseased follicles to the action of the septic poison differs both from that which regards dothinenteritis as the cause of fever, and from that which assigns to it a merely secondary place in this affection. To the latter are opposed the extremely frequent, and early occurrence of abdominal symptoms (as diarrhœa) in the typhoid form of fever. With the post mortem appearances in subjects examined at an early stage; while the former is irreconcileable with the occasional absence of the lesion, the frequent want of correspondence between its amount and the gravity and fatal result of the fever, (a correspondence which should exist if the other phenomena of fever were but the sympathies of the affection of the follicles,) with the occasional persistence of the local disease after the fever has subsided, and with the presence (almost equally frequent in typhoid fever) of other lesions which cannot be considered sympathetic of this, but must be ascribed either to the immediate operation of the poison, or to that state of the blood produced by it; such are the softening of the spleen, liver and heart, and the inflammatory affection of the brain and thoracic viscera.

These pathological changes, as well as the derangements of function constituting the *febrile state*, will probably be best explained by some such hypothesis as that advanced by Dr. Hodgkin, which supposes the febrile state to depend upon a suspension, or at least very considerable interruption of that process by which, during health, the various parts of the system are continaally undergoing a change, the old materials being removed while others are substituted in their place."† This hypothesis will be found perfectly in accordance with that of the action of a morbid poison upon the blood, since it will be the natural effect of the molecular change produced in that fluid by the decomposing particles of the poison so to modify it as to render it unfit to undergo the capillary attractions constituting the processes of interstitial absorption, nutrition, and secretion; and thus instead of Dr. Smith's formula of the order of successive derangements in fever—namely, derangment of innervation—then of circulation, and lastly of secretions of the animal fluids; the more correct one will probably be, first the molecular change in the blood, then the suspension or modification of the interstitial processes—or change of particles—then certain derangements of innervation and of the heart's action, and the result—formed fever.

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* Schultz quoted by Müller.

† Lectures on Mucous Membranes, Lect. 23.

Dr. Hodgkin's hypothesis seems to explain the great difference in the fatality of fever as affecting the higher and lower classes of society, since by the mode of life of the former, more nutriment being taken into the system, and more organic matters constantly present in the blood. an arrest of the process by which they are eliminated, must naturally be followed by more complete deterioration of the mass of circulating fluid, and more serious injury to the functions and structure of the organs supplied by it.

According to this view, dothinenteritis is one of the phenomena of the second stage in the action of the poison, and immediately consequent upon certain modifications of the biliary (and probably also the intestinal) secretion. Its occurrence cannot be considered *essential* to typhoid fever, as the contamination of the blood may cause the molecular changes upon which the foregoing hypothesis supposes fever to depend without this—albeit absence in typhoid fever if very rare—while, on the other hand, it may exist without fever necessarily following, for we frequently see that, of a number of individuals exposed to the same source of miasm, some will suffer an attack of typhoid fever, while others will be affected with diarrhœa or dysentery: a fact which is explained by a reference to those experiments of Gaspard, in which the recovery of the animal after putrid injection, was attended with profuse and offensive discharges—seemingly the mode of relieving the blood from the presence of the poison.

Reference has been already made to another set of cases, in which dothinenteritis occurs without fever: those namely, in which the poison was so concentrated as to produce a rapidly fatal effect, and where examination after a diarrhœa of only a day or two shewed the same peculiar affection of the follicles as in typhoid fever; the inference from such cases taken conjointly with those of fever from the same causes without dothinenteritis, must be that this lesion is *neither cause nor effect of the fever, but a concurrent and contingent effect of the poison.* Most of the other pathological changes of fever are to be explained by the alterations in the constitution of the blood. Such is evidently the cause of the softening of the spleen so invariably present in typhoid fever, and such a little consideration will shew to be the cause of the congestive character of the typhoid inflammations: for the occurrence most likely to follow such a change in the molecular attractions of the blood as will interfere with its capillary circulation, is *stagnation in this part of the system*, of which the consequences are venous congestion, passive hæmorrhages, and the softening of parenchymatous organs. The stagnant character of the typhoid pneumonia has been remarked by many; thus Dr. Williams says, "it may be almost a question whether in these cases the local disease in the lungs is not rather a congestion of blood in an altered state than an inflammation, and it is very commonly the sequel rather than the cause of the fever,"*—an opinion which seems fully warranted by dissection, as well as consistent. Huxham, with the modifications of the physical signs in this form of disease,† was so much struck with this connexion of the local affection and diseased blood, that he compared the state of the latter in these cases to the *scorbutic habit*; and Andral countenances this analogy in the following passages. "The ataxo-adynamic fever recognises for its commencement some alteration of the blood, whether this alteration may have taken place spontaneously, and produce a sort of acute scorbutus, or it may follow the introduction of deleterious agents, as miasms, virus, matters in a state of putrefaction; these agents after having modified the composition of the blood come to poison the nervous centres. Then the disease is everywhere where blood and nerves are to be found, and in every part lesions may occur which perform but a secondary part in the production of the symptoms.*

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* Article Pneumonia, Cyclop. Prac. Med.

† See my Observations on Typhoid Pneumonia, Dublin Journal, V. 7, for several dissections of this disease.

Again—" Congestions of the parenchymatous tissues and membranes are tolerably frequent during the course of fevers. These congestions seem to depend on the rupture of equilibrium between the globules and firine; they are very frequent in typhoid and typhus fevers, and small-pox: the spleen and other parenchymatous tissues are usually congested in these diseases, and a diminution of fibrine as compared with the globules (whether absolute or relative) is the alteration of the blood observed in these maladies.

"The ancients concluded from the phenomena just mentioned that in the diseases in question, the blood is altered, and that its elements have a great tendency to separate. They designated by the phrase *putridity*, that morbid condition in which the vital powers seem to yield to physical causes, and the blood becomes putrescent. Borden, whose opinions as to the nature of typhoid fever are remarkably sagacious and philosophical, does not hesitate to consider that malady as connected with a general condition of the system, which he designates by the name of *acute scurvy*. This phrase is not inaccurate, so far as regards the condition of the blood. A diminution of the quantity of the coagulable material of the blood is a general fact observed in all great febrile disturbances; thus in miasmatic fevers there is first absorption of the miasma, and immediately after, the only prominent phenomenon is an alteration of the blood. This alteration which occurs in typhoid fever is the effect of some cause as yet unknown."†

Hæmorrhage is well known to be characteristic of typhoid fever. That from the air-passages is enumerated by Chomel among the distinctive symptoms of the disease. Intestinal hæmorrhage is also a frequent and an unfavourable symptom, and indicative of a diseased state of the blood. This hæmorrhage is preceded by stagnation. The softening of viscera is always observed in conjunction with an altered and fluid state of the blood. In some descriptions of softened spleen by Andral and others, the blood contained in it is compared to the lees of wine.

SECT. V.—*Characters of the Disease produced by the Putrid Miasm.*

It has been remarked, that a general resemblance may be traced between the disease produced by the infectious animal poison of typhus and the exanthemata; its first and most striking analogy being the almost constant presence of a peculiar eruption. Another particular in which it resembles them and differs from the disease now under consideration is the absence of any constant internal lesion; the pathology of typhus being of a functional or physiological kind, while that of endemic or typhoid fever is anatomical and precise in its nature. The distinctive characters of the two affections may be thus stated. In typhus, a poison is generated by certain changes in the fluids of the living body, which, being received into the blood of a healthy individual, has a tendency to excite in that fluid the transformations from which it has itself arisen, and by which it will be reproduced: a process during which certain phenomena occur, as that of eruption (an effort apparently to free the system from the presence of the poison), and the conclusion of which is marked by the presence in the excretions of the material necessary for the generation anew of the disease in any person into whose blood it may be received. All these phenomena may occur without appreciable change in the structure of any organ, and in fact death may be produced without any morbid appearance beyond that degree of congestion naturally connected with the modification of its processes of nutrition and secretion.

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* Clinique Medicale Translated, p. 610. Several cases are given, in which all the symptoms of typhoid fever were produced apparently by mental and bodily depression, but after death no lesion was discovered—for a striking case of this acute scorbutus, see Dr. Law's paper beforequoted at p. 19.

† Lectures on the Blood, reported in Dublin Medical Press, Aug. 11, and Provincial Medical and Surgical Journal, Aug. 21.

In typhoid fever the events following the introduction of the putrefactive poison are different: it will appear upon examination into these, that no new material of reproduction is generated, that the eruption is not a true exanthema or identical with that of typhus. being later in its appearance, less constant, more scanty, consisting of successive crops rather than persistent and uniform as in typhus. A marked modification of the molecular changes of the system occurs in this as in every variety of febrile movement, but its continuance is evidently less uniform than in typhus, being subject to alterations and remissions, at times approaching those of the periodic fevers; and the critical change attending its resolution is more gradual and liable to be less certain and complete, as well as to recur by relapse, unlike that of typhus. But the most important distinction consists in the fact that the typhoid miasm has, like other putrid poisons, a tendency to be eliminated from the system through the biliary excretion, in course of which process a peculiar form of irritation is set up in the alimentary canal, while no such tendency can be asserted to the poison of true typhus, in the majority of cases of which the biliary excretion suffers rather a diminution than otherwise.

But it may be said it is by no means proved that the typhoid affection of Louis and Chomal is of endemial origin, and in order to establish the connexion between miasm as a cause, and fever characterised by dothinenteritis as the effect, either this must be proved, or it must be made to appear that the fevers which in our own country may be traced to this source are to be distinguished from typhus by the intestinal lesion.

With regard to the French typhoid fever, we are led to infer this conclusion from the following facts: the existence of such miasm in abundance in the fosses, wells, and river of Paris—the almost invariable occurrence of gastro-intestinal affections in those newly arrived there—the fact that typhoid fever attacks the same class so constantly as to make a change of circumstances regarded as one of the essential causes of the disease—and lastly, the testimony of the most distinguished physicians that it is not propagated by contagion. Let the experience of our large hospitals, with reference to the infection of typhus, be compared with the following statement of Andral. "In Paris, either in the hospitals or out of them, we never recognized in this disease (dothinenteritis) the slightest appearance of a contagious character. In the hospitals we do not see it transmitted from the individual who brings it from without to those who are lying in the beds next his own; neither do we see that the patients who lie in a bed previously occupied by a person who has recovered from, or who has died of a dothinenteritis, are attacked; neither are the physician or medical students who come there attacked with it, more particularly those who have had to come in contact with patients lobouring under the disease. Out of the hospitals what circumstances are more favourable to contagion than those generally found combined in the case of medical students who attend their companions when affected with typhoid fever? Shut up in a room which in general is very small, they pay them the most assiduous and devoted attention night and day; if the affection were contagious almost all of them would contract it, and yet we do not remember to have seen the disease even once arise in this way in a healthy individual."*

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* Spillan's Clinique Medicale, p. 728.

Louis does not mention contagion in his observation on the causes of the disease, but Dr. Gerrhard states that, in conversation, he informed him that he had never seen a case so communicated.

But the question may be elucidated by an examination of some of the published histories of fevers occurring in this country from exposure to endemial sources, from which it will be seen that in numerous instances these were found to be attended with the characteristic dothinenteritis of the French typhoid affection. Thus in London, after making every due allowance to the advocate of the exclusive infectiousness of typhus, we must contend that the writings of Dr. Armstrong, Dr. Southwood Smith, and others, prove the frequent occurrence of continued fever from these causes, while the treatise of Dr. Smith shews how large a proportion of the fever of London is of the intestinal kind—having all the characters, symptomatic and anatomical, of the "typhoid affection." A similar remark may be made of Dr. Tweedie's work, which contains numerous cases of dothinenteritis, while it affords strong indirect testimony to the endemial source in the statement as to the period of the year at which the disease prevailed, and its remarkable subsidence under the influence of temperature, rain, and frost—causes which exert a precisely opposite effect upon contagious typhus.*

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* Dr. Tweedie, who is by no means a strong advocate for the malarial origin of fever, remarks, that "cold and wet Summers are always remarked to be comparatively healthy, while disorders of the bowels in such seasons are seldom observed. The number of patients admitted into the Fever Hospital, in the Autumn months of the last three years, establish this principle. In August, September, and October, 1827, there were 205; in the same months of 1828, the numbers were 170; in the Autumn of 1829, only 94 were received. The cause of this progressive diminution is undoubtedly to be traced to the cold wet Summer of the last two seasons."

A similar remark has been made by many physicians as to Dublin; thus Dr. Percival says, "it has long been observed, that protracted dry weather is peculiarly productive of fever in Dublin; and that rainy weather agrees best with the general health of its inhabitants." And while he states that the worst forms of typhous fever prevailed at an advanced period of the *Winter*, and were characterised by cerebral congestion, he thus distinctly characterizes the endemial fever: "But the seat of peculiar congestion in the autumnal fever was the inner surface of the intestines, and sometimes the mesenteric organs. The type of the epidemic was more irregular than any other; its invasion more obscure; its progress and duration less defined. The subjects of the disease were often broken down and declining constitutions, in which the digestive organs had been long impaired, &c." Could any description more resemble that of the dothinenteritis of Louis? Dr. Davidson, who argues for the identity of the two fevers, meets the above statement of Dr. Tweedie thus:—"An opinion exactly opposed to that of Dr. Tweedie is given by Dr. Armstrong. He states, that in England, typhus is evidently favoured by a low temperatue, being most prevalent in the cold seasons of Winter and Spring, generally abating or disappearing, as the heat of Summer advances, and often prevailing to a considerable degree in cold wet Autumns." This passage is extracted from his work on Typhus, in which Dr. Armstrong advocated the doctrine of contagion. At a latter period of his life he taught the exclusively malarial origin of fever, and in his lectures adduces in proof of that doctrine the great prevalence of fever in London during hot seasons, and particularly during the dry hot Summer of 1818. The only mode of reconciling these opposite opinions of the *same observer*, is by supposing that he described the nature of each epidemic correctly as it was presented to him, but not being prepared to recognize a distinction in their nature, was natu-

Again, while Dr. Addison ascribes the numerous cases of synochus and typhus presented at Guy's Hospital to river malaria, Dr. Bright and Dr. Hodgkin prove the identity of many of the cases received into that institution with the disease described by Louis. Similar observations have been made in other places. In Birmingham, dothinenteritis is stated to be the constant morbid appearance of the few cases of fever which occur; and on referring to Dr. Ward's account, already quoted (p. 43), of a fever which he clearly shews to have arisen from river malaria, we find it stated that it was present in all the fatal cases.

In Dublin, Dr. Cheyne marked three periods occurring in his experience, during which the contagious typhus usually prevalent, gave way to epidemics of intestinal fever, in which evidence of malaria was frequently met with, but infection not so—the pathology was that of dothinenteritis. These observations are confirmed by others; thus, Drs. Graves and Stokes have published a number of cases of peritonitis from perforating ulcer of the ileum, occurring during one of these periods, 1826-29. Dr. Kennedy states that the glands of Peyer were found by him to be more or less diseased, in a large proportion of the cases of the same period, presenting, as he remarks, a striking contrast in this respect to the fever (contagious typhus) of 1837.* Dr. Stokes also says, "In the epidemic of 1826 and 1827, we observed the follicular ulcerations (dothinenteritis of the French) in the greater number of cases. In many instances perforation took place, and the whole group of vital and cadaveric phenomena corresponded almost exactly to the dothinenteric affection of the French authors."†

We meet with similar evidence of two fevers in Glasgow. In 1836. says Dr. Stewart, I was much struck with the simultaneous occurrence in the wards of the Glasgow Fever Hospital, of two sets of cases in which the symptoms (however little most of them might seem to differ when viewed individually) presented, when taken collectively, characters so marked as to defy misconception, and to enable the observer to form with the utmost precision the diagnosis of the nature of the disease and the lesions to be revealed by dissection. More particularly it was remarkable to observe, that while in the one disease the affection in those who presented no eruption was so slight and of so short duration as to make it very questionable whether it deserved the name of typhus, and while the fatal cases presented an abundant and generally a profuse eruption; those labouring under the other, which equally and even in a much higher proportion, went on to a fatal termination, rarely presented any, and then only a very scanty eruption. It was further remarkable, that while in the one several successive patients had either been restored to health or fallen victims to the severity of the affection, the disease under which those laboured who lay side by side with them, though characterized by much less urgent symptoms, pursued its gradual course through weeks and months consecutively, and in the majority of cases to a fatal issue. And finally it was more remarkable still, that to complete the contrast already so striking, dissection proved the existence in the one disease of most extensive local lesions, in the other, the absence of all prominent local lesion whatsoever.

Dr. Stewart adds, "that during the Summer and Autumn of 1826, the cases of typhoid fever were numerous, but from the month of November in that year, (at which time both the type and amount of typhus became more formidable) till June, 1838, not more than a dozen cases, if there were even so many, and these at long intervals, were admitted for treatment."‡

This evidence is pretty clear as to the existence of two forms of disease. As

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rally led by the evidently non-contagious character of the last observed, to doubt the correctness of his views of the origin of the first.

* Medical Report of the Cork Street Fever Hospital.

† Lectures, Lond. Med. and Surg. Journal.

‡ On Typhus and Typhoid Fevers, Edin. Med. and Surg. Journ. No. 145.

to the causes, the highest authority in Glasgow on this subject, Dr. Cowan, writing during the period referred to, and with the cases before him, says—"many of the cases of the production and propagation of disease must be ascribed to the habits of our population, to the total want of cleanliness among the lower order of the community, to the absence of ventilation in the more densely peopled districts, and to the accumulation for weeks and months together of filth of every description in our public and private dunghills, to the over-crowded state of the lodging-houses resorted to by the lowest classes, and many other circumstances unnecessary to mention."

In Edinburgh, according to Dr. Christison, "the intestinal affection has repeatedly presented itself in groups—the *constitutio dothinenterica*, to speak in nosographical language, has repeatedly appeared and disappeared as a subordinate or intercurrent epidemic, in the course of the more general epidemic—typhus." And according to Dr. Reid, such cases occur not unfrequently in the country parts of Scotland, and are occasionally sent to the Edinburgh Infirmary.

In Liverpool we are informed they occur in an intercurrent way, as in Glasgow,* and we need only refer to the evidence before the committee on the health of towns for proof of sufficient endemial causes.

In the Navan Fever Hospital there have been for the last seven years almost always two distinct forms of fever present, one or other occasionally preponderating, so as at times nearly to exclude the other. Thus for the first three years the prominent features were pain, tenderness, and meteorism of the abdomen, diarrhœa, and not unfrequently these symptoms combined with catarrh; several cases of perforation of the ileum occurred towards the close of this period; petechiæ were not frequent and were late in their appearance, and we had few instances of communication by contagion. During the three following years a highly contagious fever prevailed, and the symptoms and treatment were completely different, delirium, subsultus, dysphagia, being the ordinary symptoms, and diarrhœa being rarely met with;—nearly every case presented the measly efflorescence, and instances of contagion were as numerous as they had been rare previously. During the present Summer the prevailing type has been the abdominal fever of the first period, and instances of typhus are infrequent, certainly not a fourth of the whole, and sent exclusively from a district in which the epidemic of last year still lingers.

In America the existence of two kinds of fever has been maintained by Dr. Jackson and Dr. Gerrhard. The former says, in his report on typhoid fever, "it is plain that there are at least two species of continued fever, both in Europe and in this country, and further researches may very possibly shew more."

Dr. Gerrhard states, that "from the information we possess we should conjecture that the two diseases (British or Irish typhus and dothinenteritis), are widely different in their symptoms, anatomical characters, treatment, and mode of transmission."

The following extracts from his able paper will shew that the two forms of fever exist in America at different periods and with distinct characters, just as in our own cities.

"Dothinenteritis is by no means a rare disease in Philadelphia, although less common than at Paris. In the essay alluded to, I established the identity of the anatomical characters and of the symptoms of the fever occurring at Philadelphia with that observed at Paris...The typhous fever which is so common throughout the British dominions, especially in Ireland, is not attended with ulceration or other lesion of the glands of Peyer......For a period of at least ten years, there has been no epidemic of this nature at Philadelphia. In the year 1827, a large number of Irish emigrants were ill of a typhoid fever with ulceration of the small intestines, which was probably dothinenteritis, and during several successive years there were more or less extensive epidemics of remittent and intermittent fevers occurring in the neighbourhood of the city, but not often extending into the central parts of the town. In the Winter of 1835-6, a form of fever not commonly met with at the hospitals was observed from time to time. It was characterized by pungent burning heat of the skin, dusky aspect of the countenance, subsultus, delirium, with great stupor and prostration, but there was no diarrhœa, and but few symptoms referrible to the alimentary canal. It was the disease which afterwards appeared as an epidemic............. The evidence of contagion was direct and conclusive; three of the principal nurses and about a dozen assistant nurses, besides a number of patients ill with various diseases were taken with the fever. There was only one nurse of a ward in which many of the patients were collected who escaped; but several of his assistants and patients were taken ill. The wards in which the fever-patients were placed were large and well ventilated. The contrast between the two fevers in this respect (their infectious character) is obvious......... *Season of the year.*—The epidemic began in March and continued until August—there were a few scattering cases afterwards. The Summer was unusually cool, and the Spring and Winter cold............. *Pathological Anatomy.*—In this large number of autopsies, amounting to about fifty, there was but in one case, and that doubtful in its diagnosis, the slightest deviation from the natural appearance of the glands of Peyer........ ......The fact that the morbid changes pathognomonic of dothinenteritis are not met with in the typhous fever, would of itself seem conclusive that the two diseases are no more identical than pneumonia and pleurisy. Although in some respects the two affections are analogous and even similar; the radical difference of anatomical lesions is at least as well marked as the distinction between the symptoms. It is indeed singular that there should be of late a strong tendency to confound two fevers which were regarded as entirely distinct by some of the older physicians."

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* See Dr. Lombard's Letter, Dub. Med. Journal, Vol. X.

In the above quotations we see strongly marked the differences of the two affections as to prevailing season—symptoms, pathology, and mode of transmission, and the similarity of each to one or other of the two forms of European fever.

Having endeavoured to collect and arrange the testimony of the best authorities as to the *sources* of the fever poison, we stop upon the threshold of the extensive inquiry into the laws which regulate the diffusion of the disease in an epidemic form.

To attempt this would require the fullest investigation into the differences and analogies of the two affections, their modes of combination in the same individual, and their occurrence in an intercurrent mode during the same epidemic period, all of which modifications of disease would be found reconcileable with the theory of two poisons; the one having its elements in the blood, and reproduced in it; the other a product of putrefactive decomposition, and not reproduced in the human body; while on the other hand Dr. Davidson's recent essay contains in itself proof that his own theory of a single typhoid poison is not tenable, since it involves the assertion of the identity of two diseases, one of which (according to him) requires to be kept up by an uninterrupted series of cases of contagion, while the other, according to the best observers, never propagates itself by contagion at all. In short, according to this doctrine, we must believe that the same poison, shall at the same time and place, and among the same collection of individuals, produce two diseases totally dissimilar in their mode of access, symptoms, pathology, treatment, and mode of transmission.

ERRATA.

To an Inquiry into Sources and Mode of Action of the Poison of Fever.

Page 1—line 8, *for* account, *read* amount.
" 9—line 30, *after* on the, *insert* contrary.
" 14—line 32, *for* violent, *read* violet.
" 17—line 17, *for* committed, *read* admitted.
" 24—line 9, *for* receiving, *read* secerning.
" 24—line 23, *for* phelibilis, *read* phlebitis.
" 24—line 48, *for* universally, *read* inversely.
" 28—line 13, *for* Brusenis, *read* Burserius.
" 29—line 14, *for* alteration, *read* alternation.
" 30—line 45, *for* epidemics, *read* epidermis.
" 32—line 36, *for* epidemics, *read* epidermis.

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